

REFLECTING ON LIFE WHILE CONFRONTING MORTALITY:
HOW THE FEAR OF DEATH INFLUENCES FORGIVENESS

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ABSTRACT

Terror management scholars proposed people's attitudes, actions, and behaviors are driven by the anxiety associated with the awareness of death. Much evidence currently supports the notion that people act defensively and are less tolerant of others when they are reminded of death. But this might have been due to the narrow way that terror management researchers have typically primed people to think about death in their studies. The present study compared two different death reminder procedures on people's willingness to forgive and to accept an apology. This study found that people who were reminded of death by a typical death reminder priming were more unwilling to forgive and more unwilling to accept an apology than people reminded of death by a death reminder priming that also involved thinking of others. Results of this study provided evidence that some reminders of death can prompt people to act less defensively and that the way thoughts of death are evoked matters.

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CHAPTER 1: INTRODUCTION AND REVIEW OF LITERATURE

Death is the inevitable conclusion to life. When thinking about death, people may sometimes reflect on their actions, relationships, physical possessions, and achievements. Solomon, Greenberg, and Pyszczynski (1986) argued in *terror management theory* that, when people think about death, these thoughts cause an overwhelming amount of anxiety and that this anxiety motivates human behavior. Solomon et al. put forth that people manage this fear through structures that buffer the anxiety. Researchers in their studies have used a variety of methods to make people think about death to examine how the fear of death is managed by these structures.

Burke, Martens, and Faucher's (2010) meta-analysis examined 20 years of research on one of the central predictions of terror management theory, called the mortality salience hypothesis. Burke et al. found much support for this hypothesis in that when people thought of death, as compared to a nonthreatening or threatening control topic, they had more negative attitudes toward a person or entity that went against their beliefs. Moreover, Burke et al. reported that the research evidence consistently showed that when people thought of death, they were more likely to engage in actions that served to validate their views or serve themselves, than when they did not think about death.

Burke et al. (2010) noted, however, that the procedures used to make people think about death were relatively similar across studies and tended to make people focus on the act of dying itself, which is only one way to think about death. Burke et al. called on scholars to examine other conceptualizations, and hence operationalizations of a reminder of death, that include people reflecting on their lives when thinking about death. Indeed, operationalizing reminders of death in a more expansive manner may be associated with other evaluations and behaviors. A behavior that might be influenced differently by a more expansive operationalization of death is

forgiveness because forgiving can be a powerful method of healing relationships after transgressions (Exline, Baumeister, Zell, Kraft, & Witvliet, 2008; Waldron & Kelley, 2008; Worthington, Brown, & McConnell, 2018). To investigate this possibility, I will discuss terror management theory, the way death has been operationalized, and how operationalizing death differently might be related to forgiveness.

Terror Management Theory

Becker's (1971; 1973; 1975) works introduced the interdisciplinary idea that death drives the behaviors that people engage in. According to Becker, humans possess highly sophisticated intellectual abilities that allow them to be aware of their own mortality. Pyszczynski, Greenberg, and Solomon (1997) believed that this awareness may cause a sense of terror that can prevent a person from feeling purposeful. Solomon et al. (1986; 2015) and Pyszczynski et al.'s (2015) terror management theory suggests that people manage this terror. To examine how this terror is managed and how it affects people's behaviors, scholars (Hayes, Schimel, Arndt, & Faucher, 2010; Rosenblatt, Greenberg, Solomon, Pyszczynski, & Lyon, 1989; Solomon et al., 1986) articulated three propositions of the terror management framework: the *anxiety-buffering hypothesis*, the *death thought accessibility hypothesis*, and the *mortality salience hypothesis*.

The Anxiety-Buffering Hypothesis

Solomon et al. (1986) explained that the anxiety buffering hypothesis is the prediction that people's anxiety associated with the awareness of mortality can be reduced if they maintain the strength of their *anxiety-buffering structures*. Pyszczynski et al. (1999) argued that people maintain the anxiety-buffering structures through a system, called the *dual process model of defense*.

Anxiety-buffering structures. Several scholars (Mikulincer, Florian, and Hirschberger, 2003; Pyszczynski et al., 2015; Solomon et al., 1986; 2015) have explained different anxiety-buffering structures. Some structures researchers have identified are: people's *cultural worldviews*, people's sense of self-worth or *self-esteem*, and people's *close relationships*.

Cultural worldviews. According to Solomon et al. (1986), humans live within a shared symbolic perception of the universe that is determined by what culture they are born in to. Researchers (Becker, 1973; 1975, Greenberg and Arndt, 2011; Kashima, 2010) posited that culture was constructed as a system of shared meanings among people that acts as a mechanism to protect against the awareness of mortality and minimize the terror caused by this awareness. Greenberg and Arndt (2011) and Solomon et al. (1986) argued that culture ingrains people's reality with "order, stability, meaning, and purpose" (p. 402; p. 196). Additionally, Greenberg et al. (2008) suggested that culture provides humans with the capacity to believe they are contributing to the world rather than just being animals trying to survive.

Pyszczynski et al. (2015) expressed that religion was created out of a need for more death-denial beliefs. Pyszczynski et al. explained that religion is a central aspect of culture and helps people to understand the concept of death and to help facilitate social interaction. Further, religion was thought to provide a support base for people's cultural worldviews (Jonas & Fischer, 2006). This is because a religion might have a shared meaning structure (Becker, 1971), have a way to explain life after death (Goodenough, 1986), be a distraction from death-related concerns (Solomon, Greenberg, & Pyszczynski, 1991a), and be a source of support and mental health enhancement (Bergin, 1991). In other words, religion has many different properties that can help people understand death, and as such, religion supports people's cultural worldviews.

To date, researchers have yet to examine the anxiety-buffering properties of the cultural worldviews. Despite this, Pyszczynski et al. (2015) argued that culture buffers the terror caused by the awareness of mortality because people might feel minimal terror if they know that they live by the values of their culture. Some values might be observed through adhering to the principles in a chosen religion or a culture's customs and traditions. Becker (1973; 1975) noted that culture provides a recipe as to how people can live a good and meaningful life.

Additionally, scholars (Plusnin et al., 2018; Solomon et al., 2015; Vail III et al., 2010) described the effect of culture as minimizing people's terror because culture can reinforce or support the belief that people can be immortal. Literal immortality is defined as a belief in an afterlife or reincarnation (Solomon et al., 2015; Burke et al., 2010; Schoenrade, 1998). Symbolic immortality is defined as a belief that people can be remembered by others in the world long after they die (Florian and Mikulincer, 1998). Solomon et al. and Pyszczynski et al. (2015) suggested that people may feel a sense of immortality by having kids or by living by their culture's values and teachings.

Self-esteem. Greenberg et al. (1997) contended that self-esteem is an anxiety-buffer for mortality awareness because it enables people to maintain their composure in the face of thoughts about death. Self-esteem in the terror management framework is defined as people's feeling of self-worth based on how well they live up to their cultural worldview (Arndt & Vess, 2008; Harmon-Jones et al., 1997; Pyszczynski et al., 1990; Solomon et al., 1991a, 1986).

Researchers (Greenberg & Arndt, 2011; Solomon et al. 1986; 1991a; 1991b; 2015) have argued that humans have a basic psychological need for security and people's initial sense of self-esteem is based on receiving security from caregivers (Schimel, Hayes, & Scharp, 2018). Pyszczynski et al. (2015) added that caregivers teach their children to act in accordance with

their cultural worldviews. If children do not act in line with their caregivers' worldviews, they are punished in the form of unmet security needs, or possibly even death (Greenberg and Arndt, 2011; Pyszczynski et al., 2015; Solomon et al., 1986, 2015).

One series of studies examined how influencing people's self-esteem buffers against anxiety. Greenberg, Solomon et al. (1992) enhanced people's self-esteem by providing them positive personality feedback. They found that the people who were reminded of death and received a self-esteem boost reported lower levels of anxiety than people who were reminded of death and did not receive a self-esteem boost. In a different set of studies, they found that participants had lower levels of anxiety in response to the threat of shock when they received a self-esteem enhancement compared to those who did not.

Some scholars have examined how people's trait self-esteem or enhancing people's self-esteem curtails people's reactions to reminders of death. For example, Harmon-Jones et al. (1997) found that if people have high trait self-esteem or received a self-esteem enhancement, their defensiveness towards a hypothetical person with a dissimilar cultural worldview was reduced. Hohman and Hogg (2015) reported that people whose self-esteem was enhanced and who were reminded of death evaluated a culturally dissimilar other less negatively than people whose self-esteem was not enhanced.

Other researchers (Baldwin & Wesley, 1996; Hirschberger, Florian, & Mikulincer, 2002) reported the opposite effect for self-esteem, in that people with high trait self-esteem had a negative reaction to a reminder of death. For example, Baldwin and Wesley found that people who had high trait self-esteem and were reminded of death had a more negative evaluation of a person from a cultural outgroup than those who had moderate trait self-esteem. Hirschberger et al. found that people who had high trait self-esteem and were reminded of death had more

stringent requirements when selecting a mate, such as better interpersonal skills, greater physical attractiveness, higher social status, and more intellect, compared to those who had low trait self-esteem.

Burke et al. (2010) explained that the inconsistent findings for self-esteem was related to situations in which self-esteem was measured as a trait. What can be concluded then, if measured trait self-esteem is excluded, is that increasing self-esteem, such as by receiving a self-esteem enhancement compared to not receiving a self-esteem enhancement, is associated with people having reduced negative reactions when reminded of death.

Close relationships. Scholars have recently proposed that people are driven by the anxiety caused by the awareness of death to form and maintain close relationships with others (Hart, Shaver, & Goldenberg, 2005; Mikulincer et al., 2003). These relationships include people's relationships with their parents, their children, their romantic partners, or their friends (Mikulincer et al.). According to Hart et al. and Mikulincer et al., a close relationship can help to manage the anxiety associated with the awareness of death if people are unable to receive adequate worldview validation or self-esteem enhancements.

Plusnin, Pepping, and Kashima (2018) conducted a systematic review that examined the terror management function of close relationships. Plusnin et al. found that reminders of death influenced both relationship initiation and relational maintenance processes. Plusnin et al. also reported that people's resultant attitudes and behaviors can be curtailed if people are able to turn toward a person who they have a close relationship with. However, people's resultant attitudes and behaviors are moderated by gender, perception of people's worth to the person they have a close bond with, and how people respond to the relief that the relationship provides.

Thus far, research examining the terror management functions of a close relationship has yet to provide an association between death-related anxiety and people's close relationships. Despite this, invoking Buss and Schmitt's (1993) evolutionary perspective, Mikulincer et al. (2003) argued that humans might have been driven to develop and maintain relationships because those who had close personal bonds had a greater likelihood of survival due to an increase in met security needs, resource acquisition, and reproduction chances. However, as they noted, some evolutionary processes are not exclusive to the anxiety buffering properties of a close relationship (e.g., increase in resource acquisition does not necessarily serve a death related anxiety-buffering function). Mikulincer et al. also invoked Bowlby's (1969, 1982) attachment theory, such that, if people are able to turn toward people who they have a close relationship with, they might receive emotional relief. Mikulincer et al. proposed this emotional relief mechanism as what could be the anxiety-buffering mechanism of a close relationship.

The dual process model of defense. Pyszczynski et al. (1999) proposed that people maintain the strength of the anxiety-buffering structures (e.g., cultural worldviews, self-esteem, and close relationships) through a proximal and distal terror management defense. Pyszczynski et al. described the proximal terror management defense as an active defense that occurs when people are made aware of their mortality. In response to overt reminders of mortality, people make attempts to suppress death related thoughts (Greenberg, Arndt, Simon, Pyszczynski, and Solomon 2000; Pyszczynski et al. 1999; Pyszczynski et al.; 2015). These attempts at suppression typically involve people looking for tasks to distract themselves or denying their vulnerability to a premature death (e.g., Arndt, Routledge, & Goldenberg, 2006; Greenberg, Arndt, Simon, Pyszczynski, and Solomon 2000; Greenberg et al. 1994; Taubman-Ben-Ari & Findler, 2005).

The distal terror management defense is described as a passive defense against the awareness of mortality (Greenberg et al., 2000; Pyszczynski et al., 1999). Wegner (1994) argued that active suppression of a thought may ironically increase the chance of that specific thought returning once active suppression ceases. In line with Wegner's thinking, Greenberg et al. (1994) believed that the suppression of death related thoughts put those thoughts in a state where they could be easily retrieved. Pyszczynski et al. (2015) argued that the distal defense functions to keep the death related thoughts suppressed. They also described that when people engage in the distal terror management defense, they are no longer aware that the behavior they are engaged in is related to defending against the thoughts about death.

Pyszczynski et al. (1999) argued that people engage in the proximal terror management defense first, which involves rationalizing the thoughts about death and looking for ways to distract themselves from those thoughts. To investigate how people proximally defend against the awareness of death, researchers remind people of death, then ask them a variety of questions related to concerns about mortality (e.g., Jessop, Albery, Rutter, & Garrod, 2008; Arndt, Routledge, & Goldenberg, 2006). People endorse life-span enhancing behaviors to proximally defend against the awareness of death. Some life-span enhancing behaviors that people endorse are a higher willingness to promote healthy behaviors (Taubman-Ben-Ari & Findler, 2005), an increased intent to maintain fitness (Arndt, Schimel, & Goldenberg, 2003), and a higher inclination to drive responsibly (Jessop et al., 2008).

Burke et al. (2010) pointed out in their meta-analysis that the distal defense appears and is stronger if people are distracted from thinking about death. For instance, Arndt et al. (2003) found in one experiment that people's intent to maintain their fitness became much stronger after a delay between making people think about death and measuring their attitudes on fitness.

Moreover, people's negative attitude toward people with dissimilar beliefs were much stronger when distracted versus not being distracted from thinking about death (Greenberg et al., 1994; Greenberg et al., 2000). In support of these findings, Abeyta, Juhl, and Routledge (2014) found that people's self-reported death-related anxiety only increased after people are distracted from reminders of mortality.

The Death Thought Accessibility Hypothesis

Another proposition discussed in terror management theory is the death thought accessibility hypothesis. The death thought accessibility hypothesis is the prediction in which death related thoughts are more easily accessible when the anxiety-buffering structures (e.g., cultural worldviews, self-esteem, and close relationships) are weakened or threatened (Hayes et al., 2010; Hayes, Schimel, Faucher, & Williams, 2008; Pyszczynski et al., 2015; Schimel et al., 2018).

Terror management researchers have provided evidence for the death thought accessibility hypothesis, such that weakening the anxiety-buffering structures in some way will increase the accessibility of death related thoughts. For instance, death thought accessibility increases when people's cultural worldview is criticized (Greenberg et al., 1994; Schimel, Hayes, Williams, & Jahrig, 2007) and when people are ostracized (Steele, Kidd, & Castano, 2014). The accessibility of death related thoughts can also increase when people are primed to think about problems in their relationship (Florian, Mikulincer, & Hirschberger, 2002) or primed to think about separation from or the death of their romantic partner (Mikulincer, Florian, Birnbaum, & Malishkevich, 2002). Taubman-Ben-Ari and Katz-Ben-Ami (2008) reported an association between death thought accessibility and separation anxiety, in that, mothers who thought of

separation from their child compared to those that did not, had stronger death related thoughts and stronger separation anxiety when reminded of death.

Scholars have also provided evidence that the accessibility of death related thoughts can be reduced if people are given the opportunity to maintain the strength of their anxiety-buffering structures, or if their anxiety-buffering structures are strengthened. For example, Cox and Arndt (2012) found that death related thoughts can be less accessible if people thought that their romantic partner viewed them positively rather than negatively. Death thought accessibility will also be reduced when people are given the opportunity to defend their cultural worldview (Schimel et al., 2007) or when people receive a self-esteem enhancement (Hayes et al., 2008).

The Mortality Salience Hypothesis

In addition to the anxiety-buffering hypothesis and death thought accessibility hypothesis, the mortality salience hypothesis is another proposition of terror management theory. The mortality salience hypothesis is the proposition of terror management theory that has received the most attention from researchers (Burke et al., 2010; Plusnin et al., 2018; Steinman & Updegraff, 2015). Rosenblatt et al. (1989) explained that the mortality salience hypothesis predicts that reminding people of their mortality will increase the need to maintain the strength of their anxiety buffering structures. A meta-analysis, based on 277 experiments between 1989 to 2010, yielded much support for the mortality salience hypothesis (Burke et al., 2010).

Burke et al. (2010) found that reminding people of their mortality generated a moderate effect on people's resultant attitudes, behaviors, and emotional state. They also reported that several between-study moderators such as the use of American college or non-college students, the outcome being measured, and the length of time between a reminder of death and the outcome being measured influenced mortality awareness effects. Burke et al. also described that

several within-study moderators, such as, participants' gender and trait self-esteem can influence mortality awareness effects. Burke et al. further reported that the strongest effects of the mortality salience induction have to do with the association between reminders of death and people's attitudes toward other people.

Subsequent to Burke et al.'s (2010) meta-analysis, research still supports the mortality salience hypothesis. Weise, Arciszewski, Verhaci, Pyszczynski, and Greenberg (2012), for example, found that people who were highly right-wing authoritarian evaluated immigrants more negatively when reminded of death compared to those who were not. Leippe, Bergold, and Donna (2016) described that African American and Hispanic participants who acted as mock-jurors in a court case judged an outgroup defendant as guilty more when they were reminded of death compared to those not reminded of death.

How Death Has Been Operationalized

Researchers have operationalized death in different ways when testing terror management theory's central predictions (i.e., the anxiety-buffering, death thought accessibility, mortality salience hypotheses). The methods that researchers have used to remind people of death appear to be conceptualizing and operationalizing death in a specific way and that manner is associated with people having negative attitudes toward dissimilar others or with people acting defensively. But it is possible that operationalizing death by a different conceptualization might be associated with people having more positive attitudes or non-defensive attitudes and behaviors.

Death Reminder Procedures

Procedures that were used to remind people of death can be classified under three different categories: explicit, implicit, and naturally occurring reminders of death (Cox, Darrell, & Arrowood, 2018). Using an explicit reminder of death involves asking participants directly

about their thoughts, feelings, and emotions associated with death. Some examples of these explicit methods are the fear of death scale (Boyar, 1964), the death anxiety scale (Conte, Weiner & Plutchik, 1982) and the mortality attitudes personality survey (Rosenblatt et al., 1989). Other explicit reminders that Cox et al. described involve having people view death related media (e.g., Baka, Debris, Maxfield, 2012; Baldwin & Wesley, 1996; Greenberg, Solomon et al., 1992).

Cox et al. (2018) characterized implicit and naturally occurring reminders of death as subtle reminders of death. When researchers remind people of death by an implicit reminder, they typically display death related stimuli outside of people's conscious awareness or under a certain threshold that would make people explicitly aware of death. For example, researchers might present words related to "death", along with words that are not related to death, without participants realizing it (Arndt, Greenberg, Pyszczynski, & Solomon, 1997), have participants complete a word search puzzle with words associated with death (Maxfield et al., 2007), or show participants a flyer for an institute that studies death (Hirschberger, Ein-Dor, & Almakias, 2008). When researchers use a naturally occurring reminder of death, they rely on stimuli within the physical environment (e.g., a cemetery) to remind people of death. Researchers have used naturally occurring reminders by interviewing people by a funeral home (Pyszczynski et al., 1996), or in a cemetery (Gailliot, Stillman, Schmeichel, Maner, & Plant, 2008).

Recategorizing the death reminder procedure

Besides categorizing death reminders as explicit, implicit, and naturally occurring ways, I offer a different way to categorize death, in that one way of categorizing is as "facing-death", whereas another way that death can be categorized as is as "life-in-the-face-of-death". A majority of death reminder procedures seem to reflect the "facing-death" conceptualization, but this way of conceptualizing death might be associated with perceiving death as finite, as

exclusively thinking about death, or thinking about death as the end. But death can be conceptualized and operationalized in other ways. Another way that death can be conceived is as “life-in-the-face-of-death”, which might involve perceiving death more broadly, thinking about life while thinking about death, or thinking about death as more than just an end.

Facing-death. One death reminder procedure that can be conceptualized as facing-death is Rosenblatt et al.’s (1989) mortality attitudes personality survey. Burke et al. (2010) reported that 80% of researchers across 277 experiments used this particular survey. In the mortality attitudes personality survey, people are asked to write about “what will happen to them as they physically die, and . . . the emotions that the thought of their own death arouses in them” (Rosenblatt et al., 1989, p. 682).

The other death-related surveys that researchers have used are not that different from the mortality attitudes personality survey. For example, some items from Boyar’s (1964) fear of death scale contain statements such as, “I am not at all disturbed by the finality of death.” and “The total isolation of death is frightening to me.” (p. 82). Also similar to the mortality attitudes personality survey, some items from Conte et al.’s (1982) death-anxiety scale contain questions such as, “Do you worry about dying?” and “Does it bother you that you may die before you have done everything you wanted to?” (p. 779). These surveys operationalized reminders of death similar to that of the mortality attitudes personality survey, that is, people are asked to consider what happens to them in death.

Other explicit reminders of death share characteristics with the mortality attitudes personality survey. For example, Baka et al. (2012) reminded people of their mortality by having them view pictures related to death, then write down their thoughts associated with experiencing death. Baldwin and Wesley (1996) had people read a passage about death, asked them to point

out specific portions of the passage, and then asked them to write about their thoughts associated with the portion they pointed out. Baldwin and Wesley found that the passages used could sufficiently remind people of death similar to that of other death reminding procedures.

Implicit and naturally occurring reminders of death may also fit under a facing-death conceptualization, but it is indeterminate because of the indirect nature in which death is thought to be evoked. For instance, people are not asked about questions directly related to death, but are reminded of death subliminally (e.g., Arndt et al., 1997; Maxfield et al., 2007) or may be assumed to be reminded of death when walking through or by a cemetery or funeral home (e.g., Gailloit et al., 2008; Jonas, Schimel, Greenberg, & Pyszczynski, 2002). This makes it unclear how broadly or narrowly the person is thinking about death.

Life-in-the-face-of-death. A procedure used to remind people of death that operationalizes death as life-in-the-face-of-death is Cozzolino, Staples, Meyers, and Samboceti's (2004) "death reflection" procedure. Cozzolino et al. created the death reflection procedure based on reports from people who experienced a "near death experience". They described near death experiences as a close call with death or an instance where people are pronounced clinically dead. Cozzolino et al. argued that near death experiences typically make people see mortality as a real concern, which in turn makes them reflect on their lives. Their manipulation of making people aware of death involved having people read a scenario that places them in a near death experience. After people read the scenario, they are asked to: "(a) Please describe in detail the thoughts and emotions you felt while imagining the scenario (b) If you did experience this event, how do you think you would handle the final moments? (c) Again, imagining it did happen to you, describe the life you led up to that point. (d) How do you feel your family would react if it did happen to you?" (p. 281).

Another procedure that operationalizes death in keeping with a life-in-the-face-of-death conceptualization of death is Cozzolino, Sheldon, Schachtman, and Meyers's (2009) "limited time perspective". In this procedure, Cozzolino et al. asked participants to "Imagine it is now the future and that you are 75 years old. Although you are healthy, you do realize your life is in its final stage. In as many words and in as much detail as possible, please describe the thoughts, feelings, and emotions you would experience at this age when thinking about death" (p. 402).

Comparing the life-in-the-face-of-death and facing-death procedures reveal several differences about how death can be conceptualized. Cozzolino et al. (2004) and Frias, Watkins, Webber, and Froh (2011) argued that a reminder of death by death reflection (life-in-the-face-of-death), unlike the mortality attitudes personality survey (facing-death), might be associated with people confronting death in a more personal and non-abstract manner.

Cozzolino et al. (2004) and Lykins, Segerstrom, Averill, Evans, and Kemeny (2007) provided evidence for the differences in concerns related to death between people reminded of death by death reflection (life-in-the-face-of-death) and the mortality attitudes personality survey (facing-death). Cozzolino et al. (2004) and Lykins et al. (2007) reported that people reminded of death by death reflection reflected on their lives, reflected on their regrets in life, and thought about others more than people reminded of death by the mortality attitudes personality survey. Cozzolino et al. provided evidence that people who were reminded of death by death reflection thought about death, the inevitability of death, and themselves less than people who were reminded of death by the mortality attitudes personality survey. Lykins et al. found that people reminded of death by death reflection thought about the reality of death, life after death, and the inevitability of death less than people who were reminded of death by the mortality attitudes personality survey.

If people think about others and their regrets in life when reminded of death by death reflection (i.e., a life-in-the-face-of-death procedure), there might be differential effects between death reflection and the mortality attitudes personality survey (i.e., a facing-death procedure). Death reflection might be a procedure that is keeping in line with the anxiety buffering hypothesis whereas a reminder by the mortality attitudes personality survey might not be. For instance, people reminded of death by death reflection might consider how well they have lived up to their cultural worldview or consider how their actions affected their close relationships. On the other hand, people reminded of death by the mortality attitudes personality survey might be more focused on death itself and ignoring the strength of their anxiety buffering structures at the time. Thus, people who are reminded of death by death reflection (life-in-the-face-of-death) might experience lower levels anxiety compared to people who are reminded of death by the mortality attitudes personality survey (facing death).

Further, Cozzolino et al.'s (2009) limited time perspective (life-in-the-face-of-death) accounts for people's lives leading up to their death unlike the mortality attitudes personality survey (facing-death). Cozzolino et al. suggested that the mortality attitudes personality survey might be associated with what they called an "open perspective of time" because there is no indication of time described in the survey. Cozzolino et al. reasoned that people who perceive that their time is limited might be more concerned for others and more concerned for understanding their place in the world. Cozzolino et al. (2009) further contended from socioemotional selectivity theory (Carstensen, 1995; Carstensen, Isaacowitz, & Charles, 1999) that how people perceive time affects the types of goals they pursue. Cozzolino et al. argued that people with an open perspective of time might experience amplified extrinsic goals, whereas people with a limited perspective of time might experience amplified non-extrinsic goals. Goals

that are extrinsic are goals that are motivated by external factors (e.g., a person forgiving a sibling because a parent said so), whereas goals that are non-extrinsic are motivated by non-external factors (e.g., a person forgiving a sibling because he or she wants to let go of his or her negative emotions).

Cozzolino et al. (2004) and Cozzolino et al. (2009) provided a different way to think about death, such that, people might have other thoughts besides exclusively thinking about death or the act of dying. Cozzolino (2006) argued that reminding people of death in a more realistic manner might reflect people who go through a near death encounter or reflect people who are approaching their mortality. Reminding people of death in a more realistic manner (i.e., reminders of one's life leading up to death) might bring death to a more concrete level of abstraction. If people experience death at a concrete level, they might have other considerations besides exclusively thinking about death. I would argue that this is like the distinction I have made with a life-in-the-face-of-death conceptualization compared to a facing-death conceptualization of death. Life-in-the-face-of-death might give people a broader perspective of death, such that, people might think about death while also reflecting on their lives.

Indeed, scholars outside of the terror management theory framework have found evidence that people think about more than death as they approach their inevitable end. Katz, Saadon-Grosman, and Arzyttt (2017) described that people who have a near death encounter experience a vivid review of their lives. Generous and Keeley (2014) found that participants frequently reported that in their final conversation with a loved one who was dying, they reminisced about their favorite moments together. Generous and Keeley also reported that in people's final conversations, the dying will express messages about love, religion, and a reflection on themselves and attempt to engage in small talk, reconcile a strained relationship, and talk about

their impending death. Based on Generous and Keeley's findings, people who are dying seem to be thinking of the lasting impact that they have or could have on other people before they die.

How Reminders of Death Affect Attitudes and Behaviors

Tests of the mortality salience hypothesis are largely associated with operationalizing death as facing-death. Researchers using a facing-death procedure have generally found that people were more defensive toward dissimilar others or evaluated dissimilar others more negatively when reminded of death as opposed to not being reminded of death (e.g., Greenberg et al., 1990; Greenberg et al., 1994; Greenberg, Arndt, et al. 2000; Rosenblatt et al. 1989; Simon et al., 1998). Renkema, Stapel, Maringer, and Van Yperen (2008) found that people negatively stereotype others more when reminded of death by a facing-death procedure compared to not being reminded of death. More recent evidence (e.g., Weise et al., 2012; Leippe et al., 2016) was associated with similar effects, such that people were less tolerant of culturally dissimilar others when reminded of death by a facing-death procedure compared to not being reminded of death.

There are, however, a few studies that provided some evidence of the association between reminders of death (via a facing-death procedure) and positive attitudes, such as evaluating dissimilar others less negatively (Greenberg, Simon, Pyszczynski, Solomon, & Chatel, 1992) or a positive behavior such as helping others (Jonas et al., 2008). But, this less negative evaluation or helping others only occurred under specific conditions. Greenberg et al., for instance, found that people who were liberal would evaluate dissimilar others less negatively than conservatives when reminded of death. Reminding people of death and priming them to think about their romantic partner (Cox et al., 2008; Mikulincer et al., 2003), parents (Cox et al., 2008; Hart et al., 2005), or friends (Cox et al., 2008) is also associated with a less negative evaluation of a culturally dissimilar other than those who are not primed to think about those

relationships. Jonas et al. reported that people who were primed to be helpful and were reminded of death were more helpful toward children than musicians. Jonas et al. also described that people who were reminded of death and primed to be helpful were more helpful toward children than those who were not reminded of death.

The few studies that compared a facing-death procedure to a life-in-the-face-of-death procedure found that the procedures were sometimes associated with different outcomes. Cozzolino et al. (2004), for instance, found that people who were high on extrinsic value orientation were less greedy when reminded of death by the death reflection manipulation (life-in-the-face-of-death) than those who were reminded of death by the mortality attitudes personality survey (facing-death). Frias et al. (2011) reported that there were no differences in people's gratefulness when people were reminded of death by either death reflection or the mortality attitudes personality survey. However, Frias et al.'s further analysis revealed that people who were reminded of death by death reflection had a significant change in gratitude, whereas those reminded of death by the mortality attitudes personality survey had no significant change in gratitude. These differences may be due to the perspective that is evoked in the different death manipulations, with one being fairly narrow in scope when one thinks about death and the act of dying (facing-death) and one being more broad in scope when one thinks about death, one's life, and how one's death might affect others (life-in-the-face-of-death).

Changes in perspective do appear to be related to different outcomes. Todd, Bodenhausen, Richeson, and Galinsky (2011) reported that perspective taking is associated with people being less racially discriminant toward others. Vescio, Schrist, and Paolucci (2003) described that when people were encouraged to take the perspective of others as opposed to not, they were less stereotypical of a dissimilar other. Noor and Halabi (2018) found that participants

who took the perspective of a cultural outgroup militant member were more willing to forgive than those who did not take the outgroup member's perspective. Thus, if people do take the perspective of others when reminded of death by a life-in-the-face-of-death procedure, people might have attitudes and behaviors that might be more geared toward creating a harmonious relationship with others.

As discussed, there are different outcomes associated with reminding people of death in different ways. Evidence from researchers currently suggests that people who are reminded of death by a facing-death procedure might be more greedy (Cozzolino et al., 2004; Cozzolino et al., 2009), more ethnocentric (Weise et al., 2012), and more prejudicial toward others (Leippe et al., 2016). This might be because people who are reminded of death by a facing-death procedure might be thinking about death at a more abstract level and that they might not be considering other factors besides death. If people are thinking about death at a more abstract level, they might perceive that they have a lot of time left when thoughts of death are evoked by a facing-death procedure. Additionally, because there is no indication of how long people have left to live when reminders of death are operationalized by this type, some might view thoughts of death as a theoretical exercise rather than concretely facing the reality. People then might be more extrinsically value oriented because they perceive that they have a lot of time left when reminded of death by a facing-death procedure.

On the other hand, people reminded of death by a life-in-the-face-of death procedure might be associated with people seeming to be more geared toward maintaining their relationships with others. If people have a near death encounter, they might have a review of their life flash before their eyes. A life review experience might be associated with a greater appreciation for life's wonders and joys and a greater sense of value toward the relationships that

people developed in their life. If people have a sense that their time is limited, they might be concerned about how best to spend the rest of their days with other people rather than the act of dying itself. People might also be more focused on how to resolve any troubled relationships when thinking that their time is limited. People who have a greater appreciation or consider that their time is limited might try to spend more time with their loved ones and reflect on all their achievements and pursuits when reminded of death in this way. Thus, it is possible that a reminder of death by a life-in-the-face-of-death procedure might be associated with people acting more benevolently toward others.

How Reminders of Death Affect Forgiveness and Apology Acceptance

Forgiveness and the related concept of apology acceptance are two constructs that might be influenced by reminders of death. Researchers that study forgiveness have found that people who forgive might see transgressors in a more positive light or might act toward transgressors in a more prosocial or socially constructive manner (Enright & Fitzgibbons, 2000; McCullough, Pargament, & Thoresen, 2000). Scholars have also found that forgiveness is associated with improved mental health (Toussaint, Shields, & Slavich, 2016) reduced anger and hostility toward a transgressor (Lutjen, Sifton, & Flannelly, 2012; Watson, Rapee, & Todorov, 2017), and lower levels of stress (Witvliet, Ludwig, & Laan, 2001).

Waldron and Kelley (2008) defined forgiveness as a relationally based process in which the transgressed, transgressor, or both acknowledge that one has acted in a harmful manner, and that the transgressed expresses undeserved compassion to the transgressor, followed by either or both persons moving toward a positive psychological state. Forgiveness is further characterized as an important part of the relational repair and maintenance process (Waldron & Kelley, 2008; Rusbult, Hanon, Stocker, & Finkel, 2005; Worthington, 2005). This is because the act of

forgiving can lead to lower levels of anger and hostility toward a transgressor that people have a relationship with (Lutjen et al., 2012; Watson et al., 2017).

Darby and Schlennecker (1982) defined an apology as social tool that a transgressor uses to acknowledge that he or she committed an act that might have caused pain toward the transgressed. Hareli and Eisikovits (2006) described that an apology is a message that expresses remorse if people transgressed someone. Said differently, an apology is a transgressor's way of identifying what he or she did wrong and an attempt at repairing the damaged relationship.

Apology acceptance can be defined as a relational maintenance process that acknowledges a transgressor's forgiveness seeking effort without a person having moved from a negative to positive psychological state. People might accept an apology in attempt to maintain social harmony, as demonstrating hostility toward a transgressor might bring unwanted attention to the transgressed. Accepting an apology might also be one way for people who were transgressed to maintain, manage, or restore their impression in the presence of others.

Researchers have also found that people are more willing to forgive if a transgressor apologizes (Darby & Schlennecker, 1982; McCullough, Worthington, & Rachal, 1997; Ohbuchi, Kameda, & Agarie, 1989; O'Malley & Greenberg, 1983). Thus far, researchers have studied forgiveness and apology acceptance as the same construct (Strickland, Martin, Allan, & Allan, 2018). But some researchers have found evidence that people view forgiving as different from accepting an apology. Dhimi (2012), for instance, found that people who were transgressed were more willing to accept an apology but less willing to forgive. Strickland et al. reported that lay people viewed apology acceptance as a tool used to acknowledge a transgressor's forgiveness seeking effort, whereas forgiveness was viewed as a process that people go through to forgo the feelings associated with a transgression. Strickland further discussed apology acceptance as a

decision-making based process, in that, people can decide to accept an apology whereas people are not necessarily able to decide to move from a negative to positive psychological state. Based on this discussion, the willingness to forgive and the willingness to accept an apology will be examined as two separate constructs.

Terror management scholars have provided a rich history on how a reminder of death can affect people. Currently, the resultant attitudes and behaviors found when testing the propositions of terror management theory are more negative in nature, however, this might be because of the way that terror management researchers have conceptualized death. Moreover, current findings on resultant attitudes and behaviors that are more positive in nature are contingent on moderators being present (e.g., priming of a romantic partner, family member, best friend, or prosocial behavior). Thus, I offer that conceptualizing death in a different way, that is “life-in-the-face-of-death”, might be associated with resultant attitudes and behaviors that are more positive in nature. A behavior of interest that might be directly affected by a reminder of death is the willingness to forgive and the related concept of the willingness to accept an apology.

If people are not exclusively thinking about death when reminded of death by a life-in-the-face-of-death procedure, they might be more willing to forgive and accept an apology compared to people who are reminded of death by a facing-death procedure. Past research indicates that people might have other thoughts besides exclusively thinking about death (e.g., Cozzolino et al., 2004; Lykins et al., 2007). This thinking might be associated with people being more focused on non-extrinsically oriented goals rather than extrinsically oriented goals. If people are more non-extrinsically oriented when reminded of death by a life-in-the-face-of-death procedure, they might perceive forgiving a transgressor and accepting a transgressor’s apology as beneficial and worthwhile over holding onto the hurt associated with the transgression.

Further, people who are reminded of death by a life-in-the-face-of-death procedure might shift beyond their own perspective that is exclusively focused on death and their dying. If people's perspectives shift in this manner, their perspective on a transgression or hurtful event could shift as well to something more than the effects of the transgression on themselves. A different perspective might mean thinking about a transgression from the transgressor's point of view or considering a transgression from the perspective of an uninvolved third party. People who take a different perspective rather than their own might allow them to recognize that everyone makes mistakes or that the transgressed is also capable of engaging in a transgression. Taking other people's perspectives might also lead people to finding new ways to better understand where they stand in the world and how they can make their social environment more positive. People might be more inclined to recognize the value in having relationships with others, even with those others who had hurt them at one point in the past. Thus, a reminder of death by a life-in-the-face-of-death procedure might be associated with people being more willing to forgive and more willing to accept an apology.

The current empirical evidence, while not a direct test of forgiveness and apologies does tend to support this conjecture. For example, Frias et al. (2011) reported that a reminder of death by death reflection (life-in-the-face-of-death) is associated with a direct influence on people's gratitude, whereas there was no change in people's gratitude when reminded of death by the mortality attitudes personality survey (facing-death). Schimel, Wohl, and Williams (2006) found that people, who were reminded of death by mortality attitudes personality survey compared to those who were not reminded of death, were less willing to forgive when the target of forgiveness was of a different cultural ingroup from the forgiver. Schimel et al. also reported that

people who were low on degree of trait empathy were also less willing to forgive when reminded of death by the mortality attitudes personality survey compared to no death reminder.

The willingness to forgive and the willingness to accept an apology might be affected differently by a life-in-the-face-of-death procedure compared to a facing-death procedure in the context of people's close or committed relationships. Van Tongeren, Green, Davis, Worthington, and Reid (2013) examined how a reminder of death by the mortality attitudes personality survey (a facing-death procedure) would influence people's willingness to forgive if they were very close or highly committed to the target of forgiveness. Van Tongeren et al. found that people who reported being more committed to an offender than those who were less committed, were more willing to forgive when reminded of death compared to people who were not reminded of death. They provided evidence that people who are in very close or highly committed relationships can be influenced by a reminder of death on their willingness to forgive. But, van Tongeren et al. did not examine how different reminders of death influence can influence people in those types of relationships on their willingness to forgive.

In sum, terror management researchers proposed that people manage the anxiety associated with the awareness of death through the anxiety buffering structures (i.e., cultural worldview, self-esteem, and close relationships) and a dual component terror management defense. Evidence in support of terror management theory indicates that people act negatively toward others when reminded of death, however, this might have been due to the way that terror management researchers have conceptualized death, which I offered as "facing-death". Here, I offer a different way of thinking about death which I titled "life-in-the-face-of-death", which includes thinking about life while thinking about death. A life-in-the-face-of-death procedure might be associated with a more willingness to forgive and accept an apology because people

might be attributing a greater sense of value to their relationships with other people due to thinking about emotional goals, considering the living while recognizing their death, or considering the limited time they have left. Therefore, I would expect that people will be more willing behave in socially constructive ways, such as accepting an apology and forgiving following a hurtful event, when primed to think of death by a life-in-the-face-of-death procedure as compared to those who are primed to think of death with a facing-death procedure.

H1: People who are reminded of death by a life-in-the-face-of-death procedure will be more willing to forgive than people who are reminded of death by a facing-death procedure.

H2: People who are reminded of death by a life-in-the-face-of-death procedure will be more willing to accept an apology than people who are reminded of death by a facing-death procedure.

CHAPTER 2: METHOD

Participants

Participants ($n = 175$) were recruited from undergraduate Communicology courses at the University of Hawai'i at Mānoa using Sona, an online participant recruitment website. Participation took approximately 30 minutes and participation was completely voluntary. Participants were compensated with course credit or extra credit in their Communicology courses. Of the participants, 86 (49%) reported to be male, 87 (49%) reported to be female, and 2 (1.2%) preferred not to disclose a gender. Age of the participants ranged from 18 to 30 years old ($M = 20.70$, $SD = 2.55$). Participants ranged from being a first year undergraduate student to being in school for 5 years or more; 71 (40%) reported to be a first year, 42 (24%) reported to be a second year, 27 (15%) reported to be a third year, 25 (14%) reported to be a fourth year, and 10 (5.7%) reported to be in school for 5 years or more. Participants on average were extremely comfortable with English (1 = *extremely uncomfortable* to 7 = *extremely comfortable*; $M = 6.83$, $SD = 0.51$).

Procedure

After students consented to participate (see Appendix A), they were randomly assigned to one of four versions of an online survey. Each version of the survey differed in their priming conditions. People were reminded of death in two of the priming conditions, whereas people were not reminded of death in the other two priming conditions. The rest of the survey questions, across all four versions of the survey, were exactly the same.

After participants were primed, they completed a distraction task because researchers have found that a reminder of death is stronger after a delay between the reminder and the outcome variable of interest (e.g., Abeyta et al., 2014; Greenberg et al., 2000). Steinman and

Updegraff (2015) noted that the strongest delay is after completing 3 tasks or approximately 8 minutes between priming condition and the outcome variable of interest.

Following the distraction task, participants described an event where they felt that they were hurt by another person's actions and they scored how hurtful the event was. Participants then answered questions about their willingness to accept an apology from the person that caused the hurtful event, their willingness to forgive the person who had caused the hurtful event, and their level of trait empathy as a possible moderator in this study (Schimel et al., 2006; Van Tongeren et al., 2013). Participants also answered several questions about their demographic (i.e., age, gender, class standing, and comfort with English).

Participants were asked questions related to past forgiveness and past apology acceptance (see Appendix B). Participants were asked whether the person they described had apologized to them in the past (*Yes*, *No*, or *I do not recall*), whether they had accepted that person's apology (*Yes* or *No*), and the extent to which they had forgiven that person (1 = *not at all* to 5 = *completely forgiven*).

Participants received a debriefing statement after completion of the questionnaire. This debriefing statement included a video to have think about more positive thoughts, information regarding access to the university's counseling office, and other resources (see Appendix C).

Materials

Priming conditions. Two of the priming conditions were reminders of death and the other two priming conditions were control conditions. Participants were reminded of death by completing either Cozzolino et al.'s (2004) death reflection (life-in-the-face-of-death) or Rosenblatt et al.'s (1989) mortality attitudes personality survey (facing-death). Participants in one control condition were asked to read a scenario similarly worded to the death reflection

procedure which was called the “normal day reflection” (life-in-the-face-of-death control). Participants in the other condition were asked to fill out a similarly worded version of the mortality attitudes personality survey that was called the “dental pain attitudes personality survey” (facing-death control).

Life-in-the-face-of-death. Cozzolino et al.’s (2004) death reflection manipulation (see Appendix D) was used as the life-in-the-face-of-death prompt to evoke thoughts of death. Participants read about a hypothetical near death experience (i.e., being trapped in a burning building) and were informed that their personality will be assessed based on their responses to this scenario. After reading the scenario, participants were asked four open-ended questions, including, “again, imagining it did happen to you, describe the life you led up to that point” and “how do you feel your family would react if it did happen to you?”

Facing-death. Rosenblatt et al.’s (1989) mortality attitudes personality survey was used as the facing-death prompt. This survey involved evoking thoughts of death posing two open-ended questions to participants. Participants were also informed that their personality will be assessed based on the content of their responses. Participants were specifically asked to describe in as much detail as possible: “(a) what will happen to them as they physically die, and (b) the emotions that the thought of their own death arouses in them” (Rosenblatt et al., 1989, p. 682).

Life-in-the-face-of-death control. Participants in this control condition (see Appendix E) were not reminded of death, instead they were asked to read through a scenario that placed them in a day where they spent time sightseeing with a family member while visiting a friend (Cozzolino et al., 2004). Participants were informed that their personality will be assessed based on the content of their open-ended responses to a hypothetical normal day scenario. After participants read through the scenario, they were asked four open ended questions concerning

their responses to the prompt. The same questions from “death reflection” were used in this control condition.

Facing-death control. Participants in this control condition were primed to think about being in pain caused by a dental procedure (Routledge & Arndt, 2010; Routledge, Arndt, Vess, & Sheldon, 2008). Participants were informed that their personality will be assessed based on the content of their open-ended responses to extreme physical pain caused by a root canal. Participants assigned to this condition were asked two open ended questions in which they described in as much detail as possible: (a) what will happen to them as they experience pain from a root canal and (b) the emotions that the thought of pain from a root canal arouses in them.

Distraction task. As a distraction task, participants reported on their mood and completed a crossword puzzle. The crossword puzzle was on a topic unrelated to death.

Mood measurement. Watson et al.’s (1998) positive and negative affective schedule (see Appendix F) was used to assess mood. Watson et al.’s questionnaire measured people’s mood on 20 different items. The scale was separated into two sub-scales each with 10-items in each sub-scale. One sub-scale measured positive mood and the other that measures negative mood. Some sample items that measured positive mood were “interested” and “excited”. Some sample items that measured negative mood were “distressed” and “upset”. Participants were informed that their mood was being assessed because certain personalities might have different responses as a result of certain stimuli. Participants were asked to rate how they felt according to a specific word. Participants responded on a 7-point Likert-type scale (1 = *does not describe me at all* to 7 = *describes me very well*) of how they felt according to the specific item at the time of taking the survey. Participants reported being in a moderately positive mood ($M = 4.19$, $SD = 1.37$). Participants also reported being in somewhat of a negative mood ($M = 2.92$, $SD = 1.28$).

Reliability for the positive mood and negative mood measures reached acceptable levels, $\alpha = .92$ and $\alpha = .90$, respectively. Results of a one-way Analysis of Variance (ANOVA) test showed that there were no significant differences among priming conditions on people's reported positive mood, $F(3, 171) = 1.31, p = .28$. Results of a one-way ANOVA also showed that there were no significant differences among priming conditions on people's reported negative mood, $F(3, 171) = 1.33, p = .27$.

Crossword puzzle. The crossword puzzle used was developed for this particular study (see Appendix G). The topic addressed in the crossword was soda brands (e.g., Crush, Pepsi, and Coke) to serve as a neutral topic that avoided sensitizing participants to any of the key variables of this study. Participants were informed that their personality will be assessed based on how many words they can solve in the crossword puzzle and were told they were not required to complete the crossword. Participants were asked to solve the puzzle by filling in answers in provided textboxes. Answers for the crossword puzzle were provided on the subsequent page.

Hurtful event disclosure writing prompt. Participants were prompted to write about a transgression using an adapted version of Van Tongeren et al.'s (2013) prompt (see Appendix H). In Van Tongeren et al.'s prompt, participants were asked to think about someone who had deeply hurt or offended them. For this study, the prompt was adapted by adding examples of hurtful events that might cause negative feelings. Participants described a variety of hurtful events such as a romantic partner having cheated on them, a friend that shut them out, a parent being distant from them, or a bully having picked on them. Of the participants, 77 (45%) reported a hurtful event caused by a current or former romantic partner, 51 (29%) reported a hurtful event caused by a friend or former friend, 17 (10%) reported a hurtful event caused by a

family member, and 28 (16%) reported a hurtful event caused by someone they had not had a relationship with.

Additionally, participants were asked to describe how hurtful the event was using a 3-item survey that asked about the participants feelings at the time in which the event was happening and their current feelings. Specifically, participants responded to three 7-point semantic differential scales related to hurt, anger, and sadness (e.g., 1 = *extremely not hurt* to 7 = *extremely hurt*). The reliability of the hurt feelings in the past scale approached an acceptable level ($\alpha = .66$) and the reliability of the hurt feelings in the present scale reached an acceptable level ($\alpha = .81$). Scores were averaged for each time frame with higher scores indicating being more hurt in response to the hurtful event described. Participants reported feeling very hurt in the past, ($M = 6.15$, $SD = 1.07$), and reported feeling somewhat hurt in the present, ($M = 3.23$, $SD = 1.70$). Results of a one-way ANOVA showed that there were no significant differences among priming conditions on people's reported feelings of hurt in the past, $F(3, 170) = 0.35$, $p = .80$. Results of a one-way ANOVA also showed that there were no significant differences among priming conditions on people's reported feelings of hurt in the present, $F(3, 171) = 1.75$, $p = .16$.

Willingness to accept an apology. To measure people's willingness to accept an apology, a 5-item questionnaire, based on Strickland et al.'s (2018) findings on how lay persons defined apology acceptance was created for this study (see Appendix I). Participants were asked, on a 7-point Likert-type scales (1 = *highly disagree* to 7 = *highly agree*), about how much they agreed with the statement provided. Some statements from this measure were "If that person tried to apologize to me, I would be willing to accept that person's apology" and "If that person apologizes, that person is willing to admit responsibility for his/her actions". Higher average scores indicated a greater reported willingness to accept the described transgressor's apology.

Participants on average reported being moderately willing to accept an apology ($M = 4.09$, $SD = 1.56$). Reliability of the apology acceptance scale reached an acceptable level, $\alpha = .82$.

Willingness to forgive. McCullough, Rusbult, and Cohen's (2006) 18-item transgression related interpersonal motivations inventory (see Appendix J) was used to measure participants' willingness to forgive. The measure assessed people's motivation to forgive after participants had described a particular transgression. The inventory was separated into three different sub-scales that examined a person's motivation to enact revenge on the transgressor (Revenge), to avoid the transgressor (Avoidance), and to act benevolent toward a transgressor (Benevolence).

Participants were asked to describe, using 7-point Likert-type scales (1 = *highly disagree* to 7 = *highly agree*), how much they agreed with the statements provided. Some sample items from the revenge sub-scale were "I'll make him/her pay" and "I wish that something bad would happen to him/her". Some sample items from the avoidance sub-scale were "I am trying to keep as much distance between us as possible" and "I'd live as if he/she doesn't exist/ isn't around". Some sample items from the benevolent sub-scale were "I have given up my hurt and resentment" and "Even though his/her actions hurt me, I still have goodwill for him/her".

Items from the revenge and avoidance sub-scales were reverse scored so that higher scores indicated a higher willingness to forgive (i.e., less revenge and less avoidance tendencies). After reverse scoring, all scores were averaged with higher average scores indicating that a participant had a stronger reported willingness to forgive the transgressor.

Participants on average reported being moderately willing to forgive ($M = 4.48$, $SD = 1.25$), with the scale's reliability reaching an acceptable level, $\alpha = .91$. Participants in the unwillingness to enact revenge subscale reported being almost entirely unwilling to enact revenge ($M = 5.97$, $SD = 1.24$), with the subscale's reliability reaching an acceptable level, $\alpha =$

.84. Additionally, participants in the unwillingness to avoid subscale reported being moderately unwilling to avoid ($M = 4.00$, $SD = 1.78$), with the subscale's reliability reaching an acceptable level, $\alpha = .91$. Lastly, participants in the willingness act benevolent subscale reported being moderately willing to act benevolently ($M = 3.81$, $SD = 1.54$), with the willingness to act benevolently subscale's reliability reaching an acceptable level $\alpha = .86$.

Trait empathy assessment. An adapted version of Davis's (1980) interpersonal reactivity inventory (see Appendix K) was used to measure people's degree of trait empathy. The interpersonal reactivity inventory contains 28-items and four different sub-scales, with each sub-scale having 7-items. These subscales measure people's ability to adopt another person's perspective (perspective-taking), people's capacity to express concern for other individuals (empathic concern), people's ability to transport themselves into fictional situations (fantasy), and people's feelings of anxiety or discomfort toward other's negative experiences (personal distress). For this study, people's trait empathy using the perspective-taking and empathic concern sub-scales were assessed.

Participants were asked, using 7-point Likert-type scales (1 = *does not describe me at all* to 7 = *describes me very well*), how well each statement described them. Some sample items from the perspective-taking sub-scale were "I sometimes try to understand my friends better by imagining how things look from their perspective", and "I believe that there are two sides to every question and try to look at them both". Some sample items from the empathic concern sub-scale were "I am often quite touched by things that I see happen", and "I would describe myself as a pretty soft-hearted person".

All scores were averaged with higher scores indicating that a participant reported having a higher degree of trait empathy. Participants reported having a tendency to be mostly empathetic

($M = 5.13$ $SD = 0.84$), with reliability of the overall trait empathy scale reaching an acceptable level, $\alpha = .80$. Participants also reported having a moderate tendency to take the perspectives of other people ($M = 5.02$, $SD = 0.96$), with the perspective-taking subscale's reliability reaching an acceptable level, $\alpha = .71$. Lastly, participants reported having a moderate tendency to express concern for others ($M = 5.24$, $SD = 0.96$), with the empathic concern subscale's reliability reaching an acceptable level, $\alpha = .72$. Results of a one-way ANOVA showed that there were no significant differences among priming conditions on people's degree of trait empathy, $F(3, 171) = 0.58$, $p = .95$. Results of a one-way ANOVA showed that there were no significant differences among priming conditions on people's reported ability to take others' perspectives, $F(3, 171) = 0.12$, $p = .96$. Results of a one-way ANOVA also showed that there were no significant differences among priming conditions on people's ability to express concern for others $F(3, 171) = 1.07$, $p = .37$.

CHAPTER 3: RESULTS

The central predictions of this study were that a reminder of death would influence people's willingness to forgive and accept an apology. Participants ($n = 52$) were included in the tests of the hypotheses (the final sample) if they reported that they had not fully forgiven the transgressor and if they had not accepted an apology from the transgressor in the past (see Table 1 for demographic information and Table 2 for mood, hurt, and empathy in final sample). Specifically, participants who were included in the analyses reported having not forgiven at all or having forgiven a little in combination with having not been offered an apology, not accepted an apology when an apology was offered, and not recalling whether an apology was offered. All tests were conducted using a $p = .05$ level to determine significance.

Hypothesis 1

Hypothesis 1 was the prediction in which people who were reminded of death by a life-in-the-face-of-death procedure would be more willing to forgive than people who were reminded of death by a facing-death procedure. A one-way ANOVA with planned comparisons between participants who were reminded of death by a life-in-the-face-of-death procedure ($n = 13$) and who were reminded of death by a facing-death procedure ($n = 12$) on their willingness to forgive was conducted. Planned comparisons revealed that participants in the facing-death condition ($M = 2.76$, $SD = 0.92$) were significantly more unwilling to forgive than participants in the life-in-the-face-of-death ($M = 3.49$, $SD = 1.12$) condition; $t(48) = 2.06$, $p = .05$, Cohen's $d = .71$ (see Table 3). The results of the analyses provided support for hypothesis 1.

Supplemental tests. To provide further insight, several additional analyses were conducted, including a one-way ANOVA and post hoc LSD tests, to examine whether there were differences among priming conditions on people's willingness to forgive and to examine whether

differences existed among priming conditions across each willingness to forgive subscale. LSDs were used due to the small sample sizes among the conditions (Williams & Abdi, 2010).

According to Keppel (1991), the LSD test is limited, in that the test does not control for type 1 or family wise error. To partially address this, the post hoc analyses were only conducted when the omnibus F -tests were significant.

Willingness to forgive overall. In addition the overall findings reported in the direct test of hypothesis 1, the results also revealed a significant difference among the priming conditions on people's willingness to forgive; $F(3, 48) = 3.80, p = .02, \eta_p^2 = .19$ (see Table 4, for means, standard deviations, and LSDs). A post hoc LSD test showed that people in the facing-death condition reported being more unwilling to forgive than people in the facing-death control condition. The post hoc LSD test also revealed that people in the facing-death condition were more unwilling to forgive than people in the life-in-the-face-of-death control condition.

Unwillingness to enact revenge. The results did not reveal a significant difference among priming conditions based on people's unwillingness to enact revenge, $F(3, 48) = 1.58, p = .21, \eta_p^2 = .09$ (see Table 4).

Unwillingness to avoid. The results did not reveal a significant difference among priming conditions based on people's unwillingness to avoid, $F(3, 48) = 1.93, p = .14, \eta_p^2 = .11$ (see Table 4).

Willingness to act benevolently. The results revealed a significant difference among priming conditions based on people's willingness to act benevolently, $F(3, 48) = 3.25, p = .03, \eta_p^2 = .17$ (see Table 4, for means, standard deviations, and LSDs). A post hoc LSD test showed that people in the facing-death condition were more unwilling to act benevolently than people in the facing-death control condition. A post hoc LSD test also showed that people in the

facing-death condition were more unwilling to act benevolently than people in the life-in-the-face-of-death control condition.

Hypothesis 2

Hypothesis 2 was the prediction in which people who were reminded of death by a life-in-the-face-of-death procedure will be more willing to accept an apology than people who are reminded of death by a facing-death procedure. To test hypothesis 2, a one-way ANOVA with planned comparisons between participants who were reminded of death by a life-in-the-face-of-death procedure and who were reminded of death by a facing-death procedure on their willingness to accept an apology was conducted. Planned comparisons revealed that participants in the facing-death condition ($M = 1.90$, $SD = 1.14$) were significantly more unwilling to accept an apology than participants in the life-in-the-face-of-death condition ($M = 2.96$, $SD = 1.40$); $t(48) = 2.19$, $p = .03$, Cohen's $d = .84$ (see Table 3). The results of the analyses provided support for hypothesis 2.

Supplemental analyses. In addition to the main findings related to the direct test of hypothesis 2, post hoc LSD tests were conducted to determine whether differences appeared among the different priming conditions on participants' willingness to accept an apology. The results of the supplemental tests revealed a significant difference among priming conditions on people's willingness to accept an apology; $F(3, 48) = 4.67$, $p < .001$, $\eta_p^2 = .23$ (see Table 4, for means, standard deviations, and LSDs). A post hoc LSD test showed that people in the facing-death condition were more unwilling to accept an apology than people in the facing-death control condition. The post hoc LSD test also showed that people in the facing-death condition were more unwilling to accept an apology than people in the life-in-the-face-of-death control condition.

CHAPTER 4: DISCUSSION

This investigation was undertaken to examine whether there were differential effects between two ways in which thoughts of death can be evoked. Burke et al. (2010) noted that a reminder of death was typically associated with people acting in ways that served to validate their views or served themselves. Examined in this study was the possibility that people might have been more self-serving due to the way terror management researchers primed thoughts of death. To explore this possibility, the typical manner used to prime death thoughts was compared with an operationalization of death that encompassed a reminder of death as life-in-the-face-of-death. The typical manner of priming thoughts of death (i.e., facing-death) was argued to be associated with people focused exclusively on death, whereas life-in-the-face-of-death procedure was reasoned to be associated with people thinking about their lives while focused on death. Evoking thoughts of death using a life-in-the-face-of-death prompt was expected to be associated with people being more willing to forgive and to accept an apology than a reminder of death by the typical manner that researchers have used.

The results revealed, as predicted, that people who were reminded of death by a facing-death procedure reported being more unwilling to forgive and more unwilling to accept an apology from someone who had hurt them than people reminded of death by a life-in-the-face-of-death procedure. Although Burke et al. (2010) found in their meta-analysis that there seemed to be no significant differences among the ways terror management researchers have reminded people of death, this investigation provides some evidence to the contrary.

As argued, the life-in-the-face-of-death prompt might have shifted people toward being more non-extrinsically value oriented as opposed to the facing-death prompt, due to the characteristic of a life-in-the-face-of-death prompt being less abstract than a facing-death

prompt. The life-in-the-face-of-death prompt used in this study involved asking participants to consider how they might die and when they might die, indicating that their time was limited. People who perceive that their time is limited might have viewed forgiveness and apology acceptance as worthwhile behaviors over holding on to their feelings of hurt because their values had shifted.

Additionally, as was argued, the study's findings might reflect people's change in perspective due to the life-in-the-face-of-death prompt because this death reminder method gives people the opportunity to consider their current and past relationships. If people are thinking about their current and past relationships, their perspective on a hurtful event could shift to the person who caused the hurtful event, which then might lead to reflecting on the value of the relationship they have or had with that person, as compared to those who are not directly prompted to do so. Thus, people whose perspective was directed to consider their relationships with others might be more inclined to engage in relational repair strategies such as being forgiving and being accepting of an apology.

Implications

Even though the focus of this study was on the comparison between two death reminder primes, the findings of this investigation also provided further evidence in support of the mortality salience hypothesis. Previous evidence from tests of the mortality salience hypothesis (e.g., Leippe et al., 2016; Rosenblatt et al., 1989; Weise et al., 2012) showed that thoughts of death were associated with people acting in a more self-serving manner toward others when they are reminded of death. Consistent with those results, this study found that people who reflected exclusively on death (facing-death) were more self-serving (i.e., more unwilling to forgive and to

accept an apology) than people who reflected on dental pain (facing-death control) or on a normal day (life-in-the-face-of-death control).

Intriguingly, there were no differences between people in the facing-death control or life-in-the-face-of-death control and people who reflected on possibly dying due to a near-death experience (life-in-the-face-of-death) on their reported willingness to forgive and to accept an apology. There might have been no differences between the facing-death control or life-in-the-face-of-death control and the life-in-the-face-of-death condition because these prompts may have been similar in concreteness and specificity. That is, participants who received the facing-death control were asked to reflect on dental pain caused by a root canal, participants who received the life-in-the-face-of-death control were asked to think about activities related to a visiting relative, and participants who received the life-in-the-face-of-death prompt were asked to reflect on a specific near-death experience. There also might have been no differences between the life-in-the-face-of-death participants and life-in-the-face-of-death control participants because the prompts from both conditions involved having people reflect on their lives and relationships.

There also might be a moderator effect related to people's familiarity with the subject they were primed with. Evidence from other areas of literature have shown that familiarity with a topic is associated with changes in people's behavior and people's assessment of a risk (e.g., Hall, Ariss, & Todorov, 2007; Huberman, 2001). Among the priming conditions, participants who reported being the most willing to forgive and to accept an apology were in the facing-death control and life-in-the-face-of-death control conditions. Perhaps because people in the control conditions had a topic that could possibly have been familiar to them, they could better imagine their reactions and sentiments over less familiar topics. Participants might know, through direct experience, how dental pain affects them because they have visited a dentist in the past and have

had procedures conducted that resulted in dental pain. People might be familiar with the normal day scenario because they have indeed spent time and did sightseeing with visiting family members in the past. For people to be familiar with the topic of death, they would have likely had to have had a near-death experience, or perhaps been present when someone passed away.

Additionally, this investigation further highlighted the complexity of forgiveness as a variable of interest. In this study, the three dimensions of forgiveness that were examined, unwillingness to enact revenge, unwillingness to avoid, and willingness to be benevolent, did not operate in a similar manner. There were no differences among the various priming conditions on reported unwillingness to enact revenge and unwillingness to avoid. However, there was evidence that some of the priming conditions varied on reported willingness to act benevolently toward the person who caused the hurtful event.

Limitations and Future Directions

Even though findings were supportive of the predictions in this study, there are still limitations that occurred which warrant caution. One of these limitations was that the average age in the sample was 21 years old. As some scholars have found (e.g., Maxfield et al., 2007; Maxfield, Pyzczynski, Greenberg, & Bultmann, 2017), adults who are close to the age of 21 may perceive reminders of death differently than adults who are close to the age of 72. Maxfield et al. (2007) argued that the way a reminder of death is perceived in contrasting ways at different ages changes because as people get older, they are temporally closer to death.

Moreover, there is a body of literature describing how people who have thoughts about their approaching death or thoughts about death due to a near death experience (e.g., Generous & Keeley, 2014; Katz et al., 2017). Keeley and Generous (2015), for instance, provided evidence that as people are dying, they attempt to resolve issues that they have with their family members.

This indicates that thoughts of death seem to influence people in ways that are different from what terror management researchers have typically reported. Future researchers should examine how different operationalizations of a reminder of death might influence people's attitudes and behaviors from populations that might have thoughts about death more frequently.

Another limitation is that many of the people who participated in this investigation were excluded from the analysis because they reported having forgiven and having accepted an apology in the past. Although results appeared to be in the right direction, exclusion of the participants that did not meet the criteria for tests of this study's predictions reduced the sample size of each condition and reduced the power of the significance test. This could explain why analyses yielded results that were approaching significance in several of the supplemental tests. Additionally, it is difficult to generalize the findings from this study due to the reduced sample sizes and reduced power of the significance test. More data should be collected to assess the stability of the findings from this study.

It is also unknown as to how reminders of death influenced the excluded participants because their responses were not analyzed. Participants were excluded based on their self-report of having forgiven and accepted an apology in the past. The reality of this is that the priming might have influenced how they responded to questions about previous forgiveness and apology acceptance as these questions were asked after being primed. It is possible that the excluded participants' responses might have been influenced by the reminder of death, leading them to answer questions in a manner that might have made them report being more forgiving in the past. Despite having found a significant difference between the different death reminders, researchers should consider asking people prior to evoking thoughts of death, as to whether or not they forgave and accepted an apology in response to a hurtful event in the past. However, this is not

without its own challenges as these sorts of questions could affect people's thoughts about death as well.

In this study, there might have also been order effects that occurred due to the priming condition prompts being shown to participants prior to the hurtful event disclosure writing prompt. This is consistent with how terror management researchers in that they typically primed people to think about death then asked them to recall an event (e.g., Cox et al., 2008; Mikulincer et al., 2003; Van Tongeren et al., 2013). Van Tongeren et al., for example, first evoked people's thoughts of death, then primed participants to think about a hurtful event that happened to them. But, van Tongeren et al. did not test if the thoughts of death influenced participants' recall of an event. This might be an issue because a death reminder could influence how a hurtful event was described. To examine this possibility, researchers could counterbalance their studies, such that, one group could have a death reminder before the hurtful event disclosure writing, whereas another group could have the hurtful event disclosure writing before the death reminder.

One other limitation of this study was that participants described hurtful events that varied in severity. People in this study described a variety of hurtful events (e.g., an ex-partner cheated on them or a friend having not remembered to say happy birthday). People might view an ex-partner having cheated them as more severe than a friend forgetting to acknowledge their birthday. People might be less willing to forgive and less accepting of an apology depending on how severe they judge these hurtful events, more so if these hurtful events had some adverse effect on people's anxiety-buffering structure. For instance, if an ex-partner did more damage to people's self-esteem anxiety-buffering structure than an instance of forgetting to say happy birthday, then people might be less willing to forgive and to accept an apology forgiveness and apology acceptance to the ex-partner than a friend forgetting to say happy birthday. Future

researchers should examine how the degree of severity of an issue might mitigate the effects of a reminder of death on people's willingness to forgive and accept an apology.

Lastly, future researchers should consider using other priming procedures that reflect a life-in-the-face-of-death conceptualization of death. There are many other ways in which a reminder of death could be operationalized as life-in-the-face-of-death. A way this can be accomplished is by having people reflect on being hypothetically diagnosed with a terminal illness with only a limited time to live. Other ways of doing this is by having people reflect on hypothetical near death experiences, such as, having been involved in what could be a fatal car crash, having suffered a heart attack, or having almost drowned in a pool. Having a variety of ways in which reminders of death are operationalized as life-in-the-face-of-death might help researchers better understand how realistic confrontations with death influence people's resultant attitudes and behaviors.

Conclusion

This study examined a different way in which thoughts of death can be conceptualized and operationalized to test Terror Management Theory: life-in-the-face-of-death (i.e., thinking about death more broadly, thinking about life while thinking about death, or thinking about death as more than just an end) and facing-death (i.e., thinking about death as finite, thinking about death exclusively, or thinking about death as the end). The findings of this study indicate that people who are reminded of death by a facing-death procedure report being more unwilling to forgive and more unwilling to accept an apology compared to people reminded of death by a life-in-the-face-of-death procedure. The results of this investigation lend additional support for the notion that how people think about death can affect their behavior, and certain prompts about death might be better at evoking socially positive actions toward others.

TABLE 1
Descriptives for Demographic Information on Final Sample

Descriptives for Demographic Information on Final Sample

Demographic	Frequency Distribution (<i>n</i> =52)	Mean (<i>SD</i>)	Range
Gender			
Male	19 (36%)	n/a	n/a
Female	33 (64%)	n/a	n/a
Age	n/a	20.79 (3.04)	(18-30)
Class standing			
First year	24 (46%)	n/a	n/a
Second year	13 (25%)	n/a	n/a
Third year	9 (17%)	n/a	n/a
Fourth year	4 (8%)	n/a	n/a
5+ years	2 (4%)	n/a	n/a
Comfortability with English	n/a	6.77 (0.47)	(1-7)
Relationship type to offender			
Family member	7 (13%)	n/a	n/a
Friend	18 (35%)	n/a	n/a
Romantic Partner	18 (35%)	n/a	n/a
Other	9 (17%)	n/a	n/a

TABLE 2
Descriptive Statistics for Mood, Hurt, and Empathy and Comparisons Among the Final Sample

Descriptive Statistics for Mood, Hurt, and Empathy and Comparisons Among the Final Sample

	LIFD (<i>n</i> =13)	FD (<i>n</i> =12)	LIFDctrl (<i>n</i> =19)	FDctrl (<i>n</i> =8)	Overall (<i>n</i> =52)		
Survey item	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>F</i> (<i>df</i>)	η_p^2
Positive mood	4.54 (1.38)	4.31 (1.22)	4.23 (1.38)	3.03 (1.26)	4.14 (1.38)	2.38 (3,48)	.13
Negative mood	2.97 (1.53)	2.72 (0.91)	2.67 (1.05)	2.70 (0.96)	2.76 (1.12)	0.19 (3,48)	.01
Feelings of hurt							
In the past	6.54 _a (0.99)	6.92 _b (0.29)	5.67 _{ab} (1.67)	6.13 (1.06)	6.25 (1.27)	2.97 (3,48)	.16
In the present	4.00 (2.35)	3.13 (1.43)	3.68 (1.94)	3.63 (1.33)	3.63 (1.85)	0.46 (3,48)	.03
Trait empathy	5.23 (1.00)	5.49 (0.70)	5.12 (0.91)	4.98 (0.79)	5.21 (0.86)	0.68 (3,48)	.04
Perspective taking	5.07 (0.94)	5.20 (0.94)	4.95 (1.02)	4.95 (1.02)	5.04 (0.96)	0.19 (3,48)	.01
Empathic concern	5.40 (1.47)	5.79 (0.70)	5.28 (1.07)	5.02 (0.69)	5.38 (1.07)	0.93 (3,48)	.06

Note. LIFD= Life-in-the-face-of-death, FD= facing-death, LIFDctrl= life-in-the-face-of-death control, and FDctrl= facing-death control. Similar subscript letters indicate significant differences between conditions with mean differences being significant at $p < .05$.

TABLE 3
Planned Comparisons Between the Different Death Reminders

Planned Comparisons Between the Different Death Reminders

Variable	LIFD (<i>n</i> =13)	FD (<i>n</i> =12)	<i>t</i> (48)	95% CI		Cohen's <i>d</i>
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		<i>LL</i>	<i>UL</i>	
Willingness to forgive overall	3.49 (1.12)	2.76 (0.92)	2.05*	0.02	1.44	.71
Willingness to accept an apology	2.96 (1.40)	1.90 (1.14)	2.19*	0.09	2.08	.84

Note. LIFD= life-in-the-face-of-death; FD= facing-death; CI= confidence interval; *LL*= lower limit; *UL*= upper limit.

**p* < .05.

TABLE 4
Means, Standard Deviations, and Significant Differences by Priming Condition

Means, Standard Deviations, and Significant Differences by Priming Condition

Variable	Priming Condition				<i>F</i> (<i>df</i>)	η_p^2
	LIFD (<i>n</i> =13)	FD (<i>n</i> =12)	LIFDctrl (<i>n</i> =19)	FDctrl (<i>n</i> =8)		
	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)	<i>M</i> (<i>SD</i>)		
Willingness to forgive overall	3.49 _a (1.12)	2.76 _{abc} (0.92)	3.59 _b (0.57)	4.04 _c (1.01)	3.80 (3,48)	.19
Unwillingness to enact revenge	2.74 (1.49)	2.21 (1.07)	2.60 (1.04)	3.54 (1.37)	3.80 (3,48)	.11
Unwillingness to avoid	5.60 (1.55)	4.67 (1.64)	5.71 (1.08)	5.65 (1.40)	1.58 (3,48)	.09
Willingness to act benevolently	2.62 (1.66)	1.82 _{ab} (0.68)	2.97 _a (1.08)	3.31 _b (1.07)	3.25 (3,48)	.17
Willingness to accept an apology	2.96 _a (1.40)	1.90 _{abc} (1.14)	3.06 _b (1.31)	3.95 _c (0.78)	4.67 (3,48)	.23

Note. LIFD= Life-in-the-face-of-death, FD= facing-death, LIFDctrl= life-in-the-face-of-death control, and FDctrl= facing-death control. Similar subscript letters indicate significant differences between conditions with mean differences being significant at $p < .05$.

References

- Abeyta, A. A., Juhl, J., & Routledge, C. (2014) Exploring the effects of self-esteem and mortality salience on proximal and distally measured death anxiety: a further test of the dual process model of terror management. *Motivation and Emotion*, 38(4), 523-528. doi: 10.1007/s11031-014-9400-y
- Arndt, J. & Greenberg, J. (1999). The effects of a self-esteem boost and mortality salience on responses to boost relevant and irrelevant worldview threats. *Personality and Social Psychology Bulletin*, 25(11), 1331-1341. doi: 10.1177/0146167299259001
- Arndt, J., Greenberg, J., Pyszczynski, T., & Solomon, S. (1997). Subliminal exposure to death-related stimuli increases defense of the cultural worldview. *Psychological Science*, 8, 379-385. doi: 10.1111/j.1467-9280.1997.tb00429.x
- Arndt, J., Routledge, C., & Goldenberg, J. (2006). Predicting proximal health responses to reminders of death: The influence of coping style and health optimism. *Psychology and Health*, 21(5), 593-614. doi: 10.1080/14768320500537662
- Arndt, J., Schimel, J., & Goldenberg, J. (2003). Death can be good for your health: Fitness intentions as a proximal and distal defense against mortality salience. *Journal of Applied Social Psychology*, 33(8), 1726-1746. doi: 10.1111/j.1559-1816.2003.tb01972.x
- Arndt, J. & Vess, M. (2008). Tales from existential oceans: Terror management theory and how the awareness of our mortality affects us all. *Social and Personality Psychology Compass*, 2(2), 909-928. doi: 10.1111/j.1751-9004.2008.00079.x
- Baka, L., Derbis, R., & Maxfield, M. (2012). The anxiety-buffering properties of cultural and subcultural worldviews: Terror management processes among juvenile delinquents. *Polish Psychological Bulletin*, 43, 1–11. doi: 10.2478/v10059-012-0001-x

Baldwin, M. W., & Holmes, J. G. (1987). Salient private audiences and awareness of the self.

Journal of Personality and Social Psychology, 52, 1087-1098. doi: 10.1037/0022-3514.52.6.1087

Baldwin, M. W., & Wesley, R. (1996). Effects of existential anxiety and self-esteem on the perception of others. *Basic and Applied Social Psychology*, 10, 75-95. doi:

10.1207/s15324834basp1801_7\

Becker, E. (1971). *The birth and death of meaning*, (2nd ed.). New York: Free Press.

Becker, E. (1973). *The denial of death*. New York: Free Press.

Becker, E. (1975). *Escape from evil*. New York: Academic Press.

Bergin, A. E. (1991). Values and religious issues in psychotherapy and mental health. *American Psychologist*, 46, 394–403. doi: 10.1037/0003-066X.46.4.394

Bowlby, J. (1973). *Attachment and loss: Separation, anxiety and anger*. New York: Basic Books.

Bowlby, J. (1982). *Attachment and loss: Attachment*. New York: Basic Books.

Boyar, J. I. (1964). *The construction and partial validation of a scale for the measurement of the fear of death*. (Unpublished doctoral dissertation). University of Rochester, Rochester NY.

Burke, B. L., Martens, A., & Faucher, E. H. (2010). Two decades of terror management theory:

A meta-analysis of mortality salience research. *Personality and Social Psychology Review*, 14(2), 1-41, doi: 10.1177/1088868309352321.

Buss, D. M., & Schmitt, D. P. (1993). Sexual strategies theory: An evolutionary perspective on human mating. *Psychological Review*, 100, 204-232. doi: 10.1037/0033-295x.100.2.204

- Carstensen, L. L. (1995). Evidence for a life-span theory of socioemotional selectivity. *Current Directions in Psychological Science*, 4, 151–156.
- Carstensen, L. L., Isaacowitz, D. M., & Charles, S. T. (1999). Taking time seriously: A theory of socioemotional selectivity. *American Psychologist*, 54, 165–181.
- Conte, H. R., Weiner, M. B., Plutchik, R. (1982). Measuring death anxiety: Conceptual, psychometric, and factor-analytic aspects. *Journal of Personality and Social Psychology*, 43, 775-785. doi: 10.1037/0022-3514.43.4.775
- Cox, C. R., & Arndt, J. (2012). How sweet it is to be loved by you: The role of perceived regard in the terror management of close relationships. *Journal of Personality and Social Psychology*, 102, 616-632. doi: 10.1037/a0025947
- Cox, C. R., Arndt, J., Pyszczynski, T., Greenberg, J., Abdollahi, A., & Solomon, S. (2008). Terror management and adults' attachment to their parents: The safe haven remains. *Journal of Personality & Social Psychology*, 94, 696-717. doi: 10.1037/0022-3514.94.4.696
- Cox, C. R., Darrell, A., & Arrowood, R. B. (2018). The method behind the science: A guide to conducting terror management theory research. In C. Routledge & M. Vess (Eds.), *Handbook of Terror Management Theory* (pp. 85-134). Cambridge, MA: Academic Press.
- Cozzolino, P. J. (2006). Death contemplation, growth, and defense: Converging evidence of dual-existential systems? *Psychological Inquiry*, 17(4), 278-287. doi: 10.1080/10478400701366944

- Cozzolino, P. J., Staples, A. D., Meyers, L. S., Samboceti., J. (2004). Greed, Death, and Values: From terror management to transcendence management theory. *Personality and Social Psychology Bulletin*, 30(3), 278-292. doi: 10.1177/0146167203260716
- Cozzolino, P. J., Sheldon, K. M., Schachtman, T. R., & Meyers. L.S. (2009). Limited time perspective, values, and greed: Imagining a limited future reduces avarice in extrinsic people. *Journal of Research in Personality*, 43(3), 399-408. doi: 10.1016/j.jrp.2009.01.008
- Darby, B. W., & Schleneker, B. R. (1982). Children's reactions to apologies. *Journal of Personality and Social Psychology*, 43, 742-753. doi: 10.1037/0022-3514.43.4.742
- Davis, M. H. (1980). A multidimensional approach to individual differences in empathy. *JSAS Catalog of Selected Documents in Psychology*, 10, 85.
- Davis, M. H. (1983). Measuring individual differences in empathy: Evidence for a multidimensional approach. *Journal of Personality and Social Psychology*, 44(1), 113-126. doi: 10.1037/0022-3514.44.1.113
- Dhami, M. K. (2012). Offer and acceptance of apology in victim-offender mediation. *Critical Criminology*, 20(1), 45-60. doi: 10.1007/s10612-011-9149-5
- Enright, R. D., & Fitzgibbons, R. P. (2000). *Helping clients forgive: An empirical guide for resolving anger and restoring hope*. (1st ed.). Washington, DC: American Psychological Association.
- Exline, J. J., Baumeister, R. F., Zell, A. L., Kraft, A. J., & Witvliet, C. V. O. (2008). Not so innocent: Does seeing one's own capability for wrongdoing predict forgiveness? *Journal of Personality and Social Psychology*, 94(3), 495-515. doi: 10.1037/0022-3514.94.3.495

- Florian, V., & Mikulincer, M. (1998). Symbolic immortality and the management of the terror of death: The moderating role of attachment style. *Journal of Personality and Social Psychology*, 74, 725-734. doi: 10.1037/0022-3514.74.3.725
- Florian, V., Mikulincer, M., & Hirschberger, G. (2002). The anxiety-buffering function of close relationships: Evidence that relationship commitment acts as a terror management mechanism. *Journal of Personality and Social Psychology*, 82, 527-542. doi: 10.1037/0022-3514.82.4.527
- Frias, A., Watkins, P. C., Webber, A. C., & Froh, J. J. (2011). Death and gratitude: Death reflection enhances gratitude. *The Journal of Positive Psychology*, 6(2), 154-162. doi: 10.1080/17439760.2011.558848
- Gailliot, M. T., Stillman, T. F., Schmeichel, B. J., Maner, J. K., & Plant, E. A. (2008). Mortality salience increases adherence to salient norms and values. *Personality and Social Psychology Bulletin*, 34, 993-1003. doi:10.1177/0146167208316791
- Gilet, A. L., Mella, N., Studer, J., Grühn, D. & Labouvie-Vief, G. (2013). Assessing dispositional empathy in adults: A French validation of the interpersonal reactivity index (IRI). *Canadian Journal of Behavioural Science*, 45(1), 42-48. doi: 10.1037/a0030425
- Goodenough, E. R. (1986). *The psychology of religious experiences*. Lanham, MD: University Press of America.
- Greenberg, J. & Arndt, J. (2011). Terror management theory. In & P. A. M. Van Lange, W. Kruglanski, & E. T. Higgins (Eds.), *Handbook of theories of social psychology: Volume 1* (pp. 398-415). Los Angeles: Sage.

- Greenberg, J., Arndt, J., Simon, L., Pyszczynski, T., & Solomon, S. (2000). Proximal and distal defenses in response to reminders of one's mortality: Evidence of a temporal sequence. *Personality and Social Psychology*, 26(1), 91-99. doi: 10.1177/0146167200261009
- Greenberg, J., Pyszczynski, T., & Solomon, S. (1986). The causes and consequences of a need for self-esteem: A terror management theory. In R. F. Baumeister (Ed.), *Public self and private self* (pp. 189-212). New York: Springer-Verlag.
- Greenberg, J., Pyszczynski, T., & Solomon, S., Rosenblatt, A., Veeder, M., & Kirkland, S. (1990). Evidence for terror management theory II: The effects of mortality salience on reactions to those who threaten or bolster the cultural world view. *Journal of Personality and Social Psychology*, 58(2), 308-318. doi: 10.1037/0022-3514.58.2.308
- Greenberg, J., Pyszczynski, T., Solomon, S., Simon, L., Breus, M., & Tesser, A. (1994). Role of consciousness and accessibility of death-related thoughts in mortality salience effects. *Journal of Personality and Social Psychology*, 67(4), 627-637. doi: 10.1037/0022-3514.67.4.627
- Greenberg, J., Simon, L., Pyszczynski, T., Solomon, S., & Chatel, D. (1992). Terror management and tolerance: Does mortality salience always intensify negative reactions to others who threaten one's worldview? *Journal of Personality and Social Psychology*, 63(2), 212-220. doi: 10.1037/0022-3514.63.2.212
- Greenberg, J., Solomon, S., & Arndt, J. (2008). A basic but uniquely human motivation: Terror management. In J. Y. Shah & W. L. Gardner (Eds.), *Handbook of motivation science* (pp. 114-134). New York: Guilford.

- Greenberg, J., Solomon, S., & Pyszczynski, T. (1997). Terror management theory of self-esteem and cultural worldviews: Empirical assessments and conceptual refinements. *Advances in Experimental Social Psychology*, 29, 61-139. doi: 10.1016/S0065-2601(08)60016-7
- Greenberg, J., Solomon, S., Pyszczynski, T., Rosenblatt, A., Burling, J., Lyon, D., Simon, L., & Pinel, E. (1992). Why do people need self-esteem? Converging evidence that self-esteem serves an anxiety-buffering function. *Journal of Personality and Social Psychology*, 63(6), 913-922. doi: 10.1037/0022-3514.63.6.913
- Generous, M. A., & Keeley, M. P. (2014). Creating and validating the final conversations (FCs) Scale: A measure of end of life relational communication with dying loved ones. *Journal of Social Work in End of life & Palliative Care*, 10, 257–289. doi: 10.1080/15524256.2014.938892
- Hall, C.C., Ariss, L., & Todorov, A. (2007). The illusion of knowledge: When more information reduces accuracy and increases confidence. *Organizational Behavior and Human Decision Processes*, 103(2), 277-290. doi: 10.1016/j.obhdp.2007.01.003
- Hareli, S., & Eisikovits, Z. (2006). The role of communicating social emotions accompanying apologies in forgiveness. *Motivation and Emotion*, 30, 189–197. doi: 10.1007/s11031-006-9025-x
- Harmon-Jones, E., Simon, L., Greenberg, J., Pyszczynski, T., Solomon, S., & McGregor, H. (1997). Terror management theory and self-esteem: Evidence that increases self-esteem reduces mortality salience. *Journal of Personality and Social Psychology*, 72(1), 24-36. doi: 10.1037/0022-3514.72.1.24

- Hart, J., Shaver, P. R., & Goldenberg, J. L. (2005). Attachment, self-esteem, worldviews, and terror management: Evidence for a tripartite security system. *Journal of Personality and Social Psychology*, 88, 999–1013. doi: 10.1037/0022-3514.88.6.999
- Hayes, J., Schimel, J., Arndt, J., & Faucher, E. H. (2010). A theoretical and empirical review of the death-thought accessibility concept in terror management research. *Psychological Bulletin*, 136, 699–739. doi: 10.1037/a0020524
- Hayes, J., Schimel, J., Faucher, E. H., & Williams, T. J. (2008). Evidence for the DTA hypothesis II: Threatening self-esteem increases death-thought accessibility. *Journal of Experimental Social Psychology*, 44, 600–613. doi: 10.1016/j.jesp.2008.01.004
- Hirschberger G, Ein-Dor T, & Almakias S. (2008). The self-protective altruist: Terror management and the ambivalent nature of prosocial behavior. *Personality and Social Psychology Bulletin*, 34, 666–678 doi: 10.1177/0146167207313933
- Hirschberger, G., Florian, V., & Mikulincer, M. (2002). The anxiety buffering function of close relationships: Mortality salience effects on the readiness to compromise mate selection standards. *European Journal of Social Psychology*, 32, 609–625. doi: 10.1002/ejsp.110
- Hohman, Z. P. & Hogg, M. A. (2015). Mortality salience, self-esteem, and defense of the group: Mediating role of in-group identification. *Journal of Applied Social Psychology*, 45, 80–99. doi: 10.1111/jasp.12277
- Huberman, G. (2001). Familiarity Breeds Investment. *The Review of Financial Studies*, 14(3), 659–680. doi: 10.1093/rfs/14.3.659
- Jessop, D. C., Albery, I. P., Rutter, J., & Garrod, H. (2008). Understanding the impact of mortality-related health-risk information: A terror management theory perspective.

- Personality and Social Psychology Bulletin*, 34, 951-964. doi: 10.1177/0146167208316790
- Jonas, E. & Fischer, P. (2006). Terror Management and religion: Evidence that intrinsic religion mitigates worldview defense following mortality salience. *Journal of Personality and Social Psychology*, 91(3), 553-567. doi: 10.1037/0022-3514.91.3.553
- Jonas, E., Martens, A., Kayser, D. N., Fritsche, I., Sullivan, D., & Greenberg, J. (2008). Focus theory of normative conduct and terror management theory: The interactive impact of mortality salience and norm salience on social judgment. *Journal of Personality and Social Psychology*, 95, 1239-125. doi: 10.1037/a0013593
- Jonas, E., Schimel, J., Greenberg, J., & Pyszczynski, T. (2002). The scrooge effect: Evidence that mortality salience increases prosocial attitudes and behavior. *Personality and Social Psychology Bulletin*, 28, 1342–1353. doi: 10.1177/014616702236834
- Karremans, J., Van Schie, H., Van Dongen, I., Kappen, G., Mori, G., Van As, S., . . . Van der Wal, R. (2019, January 17). Is Mindfulness associated with interpersonal forgiveness? *Emotion*. Advance online publication. doi: 10.1037/emo0000552
- Kashima, E. S. (2010). Culture and terror management: What is “culture” in cultural psychology and Terror Management Theory? *Social & Personality Psychology Compass*, 4, 164-173. doi: 10.1111/j.1751-9004.2009.00248.x
- Katz, J, Saadon-Grosman, N., & Arzy, S. (2017). The life review experience: Qualitative and quantitative characteristics. *Consciousness and Cognition*, 48, 76-86. doi: 10.1016/j.concog.2016.10.011

- Keeley, M. P. & Generous, M. A. (2015). The challenges of final conversations: Dialectical tensions during end-of-life family communication. *Southern Communication Journal*, 80(5), 377-387. doi: 10.1080/1041794X.2015.1081975
- Keppel, G. (1991). *Design and analysis: A researcher's handbook* (3rd ed.). Englewood Cliffs, NJ: Prentice Hall Inc.
- Leippe, M. R., Bergold, A. N., & Donna, E. (2016). Prejudice and terror management at trial: Effects of defendant race/ethnicity and mortality salience on mock-juror's verdict of judgments. *The Journal of Social Psychology*, 157(3), 279-294. doi: 10.1080/00224545.2016.1184128
- Lutjen, L., Silton, J., & Flannelly, N. (2012). Religion, Forgiveness, Hostility and Health: A Structural Equation Analysis. *Journal of Religion and Health*, 51(2), 468-478. doi: 10.1007/s10943-011-9511-7
- Lykins, E., Segerstrom, S., Averill, A., Evans, D., & Kemeny, M. (2007). Goal Shifts Following Reminders of Mortality: Reconciling Posttraumatic Growth and Terror Management Theory. *Personality and Social Psychology Bulletin*, 33(8), 1088-1099. doi: 10.1177/0146167207303015
- Maxfield, M., Pyszczynski, T., Greenberg, J., & Bultmann, M. (2017). Age differences in the effects of Mortality Salience on the Correspondence Bias. *The International Journal of Aging and Human Development*, 84(4), 329-342. doi: 10.1177/0091415016685332
- Maxfield M, Pyszczynski T, Kluck B, Cox, C. R., Greenberg, J., Solomon, S. & Weise, D. (2007). Age-related differences in responses to thoughts of one's own death: Mortality salience and judgments of moral transgressions. *Psychology and Aging*, 22, 341–353. doi: 10.1037/0882-7974.22.2.341

- McCullough, M. E., Fincham, F. D., & Tsang, J. -A. (2003). Forgiveness, forbearance, and time: The temporal unfolding of transgression-related interpersonal motivations. *Journal of Personality and Social Psychology*, 84(3), 540-557. doi: 10.1037/0022-3514.84.3.540
- McCullough, M. E., & Hoyt, W. T. (2002). Transgression-related motivational dispositions: Personality substrates of forgiveness and their links to the big five. *Personality and Social Psychology Bulletin*, 28(11), 1556-1573. doi: 10.1177/014616702237583
- McCullough, M.E., Pargament, K. I., & Thorsen, C. E. (2000). *Forgiveness: Theory, research, and practice*. New York: Guilford.
- McCullough, M. E., Worthington, E. L., Jr., & Rachal, K. C. (1997). Interpersonal forgiving in close relationships. *Journal of Personality and Social Psychology*, 73, 321-336. doi: 10.1037/0022-3514.73.2.321
- McCullough, M. E., Rachal, K. C., Sandage, S. J., Worthington, E. L., Jr., Brown, S. W., & Hight, T. L. (1998). Interpersonal forgiveness in close relationships II: Theoretical elaboration and measurement. *Journal of Personality and Social Psychology*, 75(6), 1586-1603. doi: 10.1037/0022-3514.75.6.1586
- McCullough, M. E., Root, L. M., & Cohen, A. D. (2006). Writing about the benefits of an interpersonal transgression facilitates forgiveness. *Journal of Consulting and Clinical Psychology*, 74, 887–897. doi: 10.1037/0022-006X.74.5.887
- Mikulincer, M., Florian, V., Birnbaum, G., & Malishkevich, S. (2002). The death-anxiety buffering function of close relationships: Exploring the effects of separation reminders on death-thought accessibility. *Personality and Social Psychology Bulletin*, 28, 287–299. doi: 10.1177/ 0146167202286001

- Mikulincer, M., Florian, V., & Hirschberger, G. (2003). The existential function of close relationships: Introducing death into the science of love. *Personality and Social Psychology Review*, 7, 20-40. doi: 10.1207/s15327957pspr0701_2
- Noor, M., & Halabi, S. (2018). Can we forgive a militant outgroup member? The role of perspective-taking. *Asian Journal of Social Psychology*, 21(4), 246-255. doi: 10.1111/ajsp.12328
- Ohbuchi, K., Kameda, M., & Agarie, N. (1989). Apology as aggression control: Its role in mediating appraisal of response to harm. *Journal of Personality and Social Psychology*, 56, 219-227.
- O'Malley, M. N., & Greenberg, J. (1983). Sex differences in restoring justice: The down payment effect. *Journal of Research in Personality*, 17, 393-402.
- Plusnin, N., Pepping, C. A., & Kashima, E. S. (2018). The role of close relationships in terror management: A systematic review and research agenda. *Personality and Social Psychology Review*, 22(4), 307-346. doi: 10.1177/108886831775305
- Pyszczynski, T., Solomon, S., & Greenberg, J. (2015). Thirty years of terror management theory: From genesis to revelation. *Advances in Experimental Social Psychology*, 52, 1-70. doi: 10.1016/bs.aesp.2015.03.001
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1999). A dual-process model of defense against conscious and unconscious death-related thoughts: An extension of terror management theory. *Psychological Review*, 106(4), 835-845.
- Pyszczynski, T., Greenberg, J., & Solomon, S. (1997). Why do we need what we need? A terror management perspective on the roots of human social motivation. *Psychological Inquiry*, 8(1), 1-20.

- Renkema, L. J., Stapel, D. A., Maringer, M., & Van Yperen, N. W. (2008). Terror management and stereotyping: Why do people stereotype when mortality is salient? *Personality and Social Psychology Bulletin*, 34, 553-564. doi: 10.1177/0146167207312465
- Rosenblatt, A., Greenberg, J., Solomon, S., Pyszczynski, T., & Lyon, D. (1989). Evidence for terror management theory: I. The effects of mortality salience on reactions to those who violate or uphold cultural values. *Journal of Personality and Social Psychology*, 57(4), 681-690. doi: 10.1037/0022-3514.57.4.681
- Routledge, C., & Arndt, J. (2008). Self-sacrifice as self- defense: Mortality salience increases efforts to affirm a symbolic immortal self at the expense of the physical self. *European Journal of Social Psychology*, 38, 531-541. doi: 10.1002/ejsp.442
- Routledge, C., Arndt, J., Vess, M., & Sheldon, K. M. (2008). The life and death of creativity: The effects of mortality salience on self versus social-directed creative expression. *Motivation and Emotion*, 32, 331-338. doi: 10.1007/s11031-008-9108-y
- Rusbult, C. E., Hannon, P. A., Stocker, S. L., & Finkel, E. J. (2005). Forgiveness and relational repair. In E. L. Worthington Jr. (Ed.), *Handbook of forgiveness* (pp. 185–205). New York, NY: Brunner-Routledge.
- Schimmel, J., Hayes, J., & Scharp, M. (2018). A consideration of three critical hypotheses. In C. Routledge & M. Vess (Eds.), *Handbook of terror management theory* (pp. 1-30). Cambridge, MA: Academic Press.
- Schimmel, J., Hayes, J., Williams, T., & Jahrig, J. (2007). Is death really the worm at the core? Converging evidence that world- view threat increased death-thought accessibility. *Journal of Personality and Social Psychology*, 92, 789-803. doi: 10.1037/0022-3514.92.5.789

- Schimmel, J., Wohl, M. J. A., & Williams, T. (2006). Terror management and trait empathy: Evidence that mortality salience promotes reactions of forgiveness among people with high (vs. low) trait empathy. *Motivation and Emotion*, 30(3), 214-224. doi: 10.1007/s11031-006-9040-y
- Schoenrade, P. A. (1989). When I die...: Belief in afterlife as a response to mortality. *Personality and Social Psychology Bulletin*, 15(1), 91-100.
- Simon, L., Arndt, J., Greenberg, J., Pyszczynski, T., & Solomon, S. (1998). Terror management and meaning: Evidence that the opportunity to defend the worldview in response to mortality salience increases the meaningfulness of life in the mildly depressed. *Journal of Personality*, 66(3), 359-382. doi: 10.1111/1467-6494.00016
- Solomon, S., Greenberg, J., & Pyszczynski, T. (2015). *The worm at the core*. New York: Random House.
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1991a). A terror management theory of social behavior: The psychological functions of self-esteem and cultural worldviews. *Advances in Experimental Social Psychology*, 24, 93-159. doi: 10.1016/S0065-2601(08)60328-7
- Solomon, S., Greenberg, J., & Pyszczynski, T. (1991b). Terror management theory of self-esteem. In C. R. Snyder & D. Forsyth (Eds.), *Handbook of social and clinical psychology: The health perspective* (pp. 21-40). New York, NY: Pergamon Press.
- Steele, C., Kidd, D., & Castano, E. (2014). On social death: ostracism and the accessibility of death thoughts. *Death Studies*, 39(1), 19-23. doi: 10.1080/07481187.2013.844746
- Steinman, C. T., & Updegraff, J. A. (2015). Delay and death-thought accessibility: A meta-analysis. *Personality and Social Psychology Bulletin*, 41(12), 1682-1696. doi: 10.1177/0146167215607843

- Strachman, A., & Schimel, J. (2006). Terror management and close relationships: Evidence that mortality salience reduces commitment among partners with different worldviews. *Journal of Social and Personal Relationships*, 23(6), 965-978. doi: 10.1177/0265407506070477
- Strickland, J., Martin, K., Allan, A., & Allan, M. M. (2018). An explanation of apology acceptance based on lay peoples' insights. *Interpersona*, 12(1), 68–90. doi: 10.5964/ijpr.v12i1.286
- Taubman-Ben-Ari, O. & Findler, L. (2005). Proximal and distal effects of mortality salience on willingness to engage in health promoting behavior along the life span. *Psychology and Health*, 20(3), 303-318. doi: 10.1080/08870440512331317661
- Taubman-Ben-Ari, O., & Katz-Ben-Ami, L. (2008) Death awareness, maternal separation anxiety, and attachment style—A terror management perspective. *Death Studies*, 32, 737-756. doi: 10.1080/07481180802289622.
- Thoresen, C. E., Harris, A. H. S., & Luskin, F. (2000). Forgiveness and health: An unanswered question. In M. E. McCullough, K. I. Pargament, & C. E. Thoresen (Eds.), *Forgiveness: Theory, research, and practice* (pp. 254–280). New York, NY: Guilford Press.
- Todd, A., Bodenhausen, G., Richeson, J., Galinsky, A., & Simpson, Jeffrey. (2011). Perspective Taking Combats Automatic Expressions of Racial Bias. *Journal of Personality and Social Psychology*, 100(6), 1027-1042. doi: 10.1037/a0022308
- Toussaint, L. L., Shields, G. S., & Slavich, G. M. (2016), Forgiveness, stress, and health: A 5-week dynamic parallel process study. *Annals of Behavioral Medicine*, 50, 727-735. doi: 10.1007/s12160-016-9796-6

- Vail III, K. E., Rothschild, Z. K., Weise, D. R., Solomon, S., Pyszczynski, T., & Greenberg, J. (2010). A terror management analysis of the psychological functions of religion. *Personality and Social Psychology Review*, 14(1) 84-94. doi: 10.1177/1088868309351165
- Van Tongeren, D. R., Green, J. D., Davis, D. E., Worthington, E. L., & Reid, C. A. (2013). Till death do us part: Terror management and forgiveness in close relationships. *Personal Relationships*, 20, 755-768. doi: 10.1111/pere.12013
- Vescio, T., Sechrist, G., & Paolucci, M. (2003). Perspective taking and prejudice reduction: The mediational role of empathy arousal and situational attributions. *European Journal of Social Psychology*, 33(4), 455-472. doi: 10.1002/ejsp.163
- Wegner, D. M. (1994). Ironic processes of mental control. *Psychological Review*, 101, 34 –52. doi: 10.1037/0033-295X.101.1.34
- Weise, D. R., Arciszewski, T., Verhaci, J., Pyszczynski, T., & Greenberg, J. (2012). Terror management and attitudes toward immigrants: Differential effects of mortality salience for low and high right-wing authoritarians. *European Psychologist*, 17(1), 63-72. doi: 10.1027/1016-9040/a000056
- Waldron, V. R., & Kelley, D. L. (2008). *Communicating forgiveness*. Thousand Oaks, CA: Sage.
- Watson, D., Clark, L. A., Tellegen, A. (1988). Development and validation of brief measures of positive and negative affect: The PANAS scales. *Journal of Personality and Social Psychology*, 54(6), 1063-1070. doi: 10.1037/0022-3514.54.6.1063

- Watson, H., Rapee, R., & Todorov, N. (2017). Forgiveness reduces anger in a school bullying context. *Journal of Interpersonal Violence*, 32(11), 1642-1657. doi: 10.1177/0886260515589931
- Williams, L. J. & Abdi, H. (2010). Fisher's least significant difference (LSD) test. In N. Salkind (Ed.). *Encyclopedia of Research Design*. Thousand Oaks, CA: Sage.
- Worthington, E. L. Jr. (2005). Art and science of forgiving. In E. L. Jr., Worthington (Ed.). *Handbook of forgiveness*. New York: Routledge.
- Worthington, E.L., Brown, E. M., & McConnell, J. M. (2018). Forgiveness in committed couples: Its synergy with humility, justice, and reconciliation. *Religions*, 10(1), 13. doi: 10.3390/rel10010013
- Witvliet, C., Ludwig, T., & Laan, K. (2001). Granting Forgiveness or Harboring Grudges: Implications for Emotion, Physiology, and Health. *Psychological Science*, 12(2), 117-123. doi: 10.1111/1467-9280.00320

APPENDIX A Consent Form

University of Hawai'i Consent to Participate in a Research Project

Giovanni Vila, Principal Investigator

Project title: Assessing Personality Differences in Response to a Hurtful Event

Aloha! My name is Giovanni Vila and you are invited to take part in a research study. I am a graduate student at the University of Hawai'i at Mānoa in the Department of Communicology. As part of the requirements for earning my graduate degree, I am conducting this research project. The purpose of this study is to examine the relationship between certain personalities in response to a hurtful event. Some examples of a hurtful event could be an ex-boyfriend or girlfriend having cheated on you, a friend having stolen money from you, or a stranger shouting racial slurs at you. I am asking you to participate in this project because you are at least 18 years old and have experienced a hurtful event that you can recall and still feel hurt about.

What am I being asked to do?

If you decide to participate in this project, you will be asked to fill out a variety of questions concerning your personality and describe the hurtful event and your reaction to it. Most responses will be multiple choice, whereas some questions will ask you to write about 1 to 2 paragraphs in response to the prompt provided.

Taking part in this study is your choice.

Your participation in this project is completely voluntary. You may stop participating at any time. If you stop being in the study, there will be no penalty or loss to you. Your choice to participate or not participate will not affect your rights to services under the UH system.

Why is this study being done?

The purpose of my project is to evaluate how particular personalities might affect a response to a hurtful event.

What will happen if I decide to take part in this study?

The survey will consist of several multiple choice and open-ended questions. Completing the survey will take approximately 30 minutes. The survey can be accessed on this website if you choose to consent to participate.

What are the risks and benefits of taking part in this study?

I believe there is little risk to you for participating in this research project. You may become stressed or uncomfortable answering any of the survey questions. If you do become stressed or uncomfortable, you can skip the question or take a break. You can also stop taking the survey or you can withdraw from the project altogether. There will be no direct benefit to you for participating in this survey.

As researchers we are not qualified to provide counseling services and we will not be following up with you after this study. If you feel upset after completing the study or find that some

questions or aspects of the study triggered distress, talking with a qualified clinician may help. If you feel you would like assistance, please contact:

Counseling and Student Development Center (CSDC) 808-956-7927, Monday-Friday 8:00 am - 4:30 pm, http://manoa.hawaii.edu/counseling/our_services/personal_counseling.php

Confidentiality and Privacy:

I will not ask you for any personally identifying information, such as your name or address. Please do not include any real names in your survey responses. I will keep all study data secure on a password protected computer. Only my University of Hawai'i advisor and I will have access to the information. Other agencies that have legal permission have the right to review research records. The University of Hawai'i Human Studies Program has the right to review research records for this study.

Questions: If you have any questions about this study, please call or email me at gvila@hawaii.edu. You may also contact my faculty advisor, Dr. Amy Hubbard, at aebesu@hawaii.edu. You may contact the UH Human Studies Program at 808.956.5007 or to discuss problems, concerns and questions, obtain information, or offer input with an informed individual who is unaffiliated with the specific research protocol. Please visit <https://www.hawaii.edu/researchcompliance/information-research-participants> for more information on your rights as a research participant.

Please print or save a copy of this page for your reference.

If you agree to participate in this project, please select the box "I consent".

- ☐ **I consent**
- ☐ **I do not consent**

APPENDIX B
Demographic Information and Previous Forgiveness Check

Directions: For the following question, please select the answer that best describes you.

1. Gender
 - a. Male
 - b. Female
 - c. I prefer not to say
2. Class standing
 - a. First year
 - b. Second year
 - c. Third year
 - d. Fourth year
 - e. 5 years or more
3. Age
 - a. 18 through 70
4. How comfortable are you with English?
 - a. 1(Extremely uncomfortable)
 - b. 7(Extremely Comfortable)
5. With respect to the situation you were asked to recall and describe (the hurtful event caused by the actions of another person), has this person ever apologized to you?
 - a. Yes
 - b. No
 - c. I don't recall
6. If you answered "yes" to the previous question, did you accept that person's apology in the past?
 - a. Yes
 - b. No
7. Prior to participating in this study, to what extent had you forgiven this person for the hurtful event?
 - a. Not at all
 - b. A little
 - c. To some degree
 - d. To a great extent
 - e. Completely forgiven

APPENDIX C

Debriefing Information

Thank you for your participation in our research project, titled *Assessing Personality Differences in Response to a Hurtful Event*.

The questions you were asked during your participation in this study dealt with serious topics. For this reason, before you exit this study, I would like to ask you to please click on the link provided below to focus on more lighthearted topics.

<https://www.youtube.com/watch?v=r8NVIYCwqIc>

As researchers we are not qualified to provide counseling services and we will not be following up with you after this study. If you feel upset after completing the study or find that some questions or aspects of the study triggered distress, talking with a qualified clinician may help. If you feel you would like assistance, please contact:

Counseling and Student Development Center (CSDC) 808-956-7927, Monday-Friday 8:00 am - 4:30 pm,

Hawai'i

Hawai'i Psychological Association (HPA) <http://www.hawaiipsychology.org/default.aspx>

24 Hour Crisis Text Line 741-741 Text "HELLO" or "ALOHA"

Mental Health America of Hawai'i (MHA-HI), (808) 521-1846,

24 Hour Crisis Line, (808) 935-0677

Crisis Line of Hawai'i 24 Hour Support, 1-800-753-6879

National

Crisis Text Line: Text HOME to 741741 in the U.S.

National Help Line Center <http://www.helplinecenter.org/>

National Alliance on Mental Illness (NAMI) <https://www.nami.org/>

National Suicide Prevention Lifeline <https://suicidepreventionlifeline.org/>, 1-800-273-8255

Psychology Today <https://therapists.psychologytoday.com/rms/>

PRIDE Counseling <https://www.pridecounseling.com>

In the case of an emergency please call 911.

APPENDIX D

Life-in-the-face-of-death (Priming Condition 1)

(Taken from Cozzolino et al.'s, 2004, Death Reflection Manipulation)

*As a reminder, if you feel uncomfortable at any time, you are free to stop participating at any time.

Directions: The following scenario and set of questions is a new form of projective personality assessment in which the content of the answers in response to near death scenario will be analyzed. After reading the following scenario and taking some time to visualize yourself in the scenario, please respond to the subsequent questions as if the event you read actually occurred.

Imagine that you are visiting a friend who lives on the 20th floor of an old, downtown apartment building. It's the middle of the night when you are suddenly awakened from a deep sleep by the sound of screams and the choking smell of smoke. You reach over to the nightstand and turn on the light. You are shocked to find the room filling fast with thick clouds of smoke. You run to the door and reach for the handle. You pull back in pain as the intense heat of the knob scalds you violently. Grabbing a blanket off the bed and using it as protection, you manage to turn the handle and open the door. Almost immediately, a huge wave of flame and smoke roars into the room, knocking you back and literally off your feet. There is no way to leave the room. It is getting very hard to breathe and the heat from the flames is almost unbearable. Panicked, you scramble to the only window in the room and try to open it. As you struggle, you realize the old window is virtually painted shut around all the edges. It doesn't budge. Your eyes are barely open now, filled with tears from the smoke. You try calling out for help but the air to form the words is not there. You drop to the floor hoping to escape the rising smoke, but it is too late. The room is filled top to bottom with thick fumes and nearly entirely in flames. With your heart pounding, it suddenly hits you, as time seems to stand still, that you are literally moments away from dying. The inevitable unknown that was always waiting for you has finally arrived. Out of breath and weak, you shut your eyes and wait for the end.

1. Please describe in detail the thoughts and emotions you felt while imagining the scenario.
2. If you did experience this event, how do you think you would handle the final moments?
3. Again, imagining it did happen to you, describe the life you led up to that point.
4. How do you feel your family would react if it did happen to you?

APPENDIX E

Life-in-the-face-of-death control (Priming Condition 3)

(Taken from Cozzolino et al.'s, 2004, "no death" control condition)

*As a reminder, if you feel uncomfortable at any time, you are free to stop participating at any time.

Directions: The following scenario and set of questions is a new form of projective personality assessment in which the content of the answers in response to a normal day scenario will be analyzed. After reading the following scenario and taking some time to visualize yourself in the scenario, please respond to the subsequent questions as if the event you read actually occurred.

Imagine that you are visiting a friend who lives on the 20th floor of a downtown apartment building. You are awakened from a deep sleep by the sound of a clock radio and the pleasant smell of coffee. You get up to get ready for a day of sightseeing and shopping with a family member. After your day spent with your family member, you come back home for dinner with your friend and then get ready for bed.

1. Please describe in detail the thoughts and emotions you felt while imagining the scenario.
2. Have you ever experienced an event like the one described in the scenario?
3. Imagining an event like the one described did happen to you, describe the life you led up to that point.
4. Again imagining this event did happen to you, describe the thoughts and emotions of the family member with whom you spent the day.

APPENDIX F

Mood Measurement (Distraction Task 1)

(Adapted from Watson et al.'s, 1988, Positive and Negative Affective Schedule)

Directions: This questionnaire consists of words that describe different feelings and emotions. Read each item and then mark the appropriate answer in the space next to that word. Indicate to what extent you feel this way right now, that is, at the present moment. Please mark a number from 1 (*does not describe me at all*) to 7 (*describes me very well*) according to what you feel with the provided word.

Positive affect:

1. Interested
2. Excited
3. Strong
4. Enthusiastic
5. Proud
6. Alert
7. Inspired
8. Determined
9. Attentive
10. Active

Negative mood:

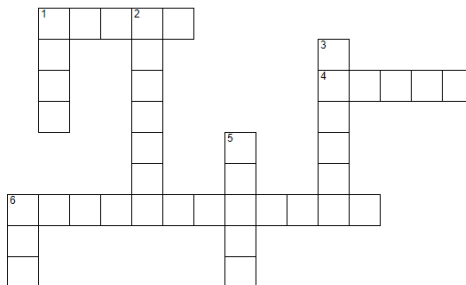
1. Distressed
2. Upset
3. Guilty
4. Scared
5. Hostile
6. Irritable
7. Ashamed
8. Nervous
9. Jittery
10. Afraid

APPENDIX G

Crossword Puzzle (Distraction Task 2)

Directions: Your personality will also be measured based on your ability to solve as many words as you can in the following crossword puzzle but by no means do you have to complete the crossword puzzle. The answers for the crossword puzzle will be provided on the next page.

Soda Brands



ACROSS

- 1 Another orange soda based on pressing juices.
 4 In competition with the soda that initially included a highly addictive substance as one of its ingredients
 6 Citrus-flavored caffeinated green soda

DOWN

- 1 One of the most popular sodas in America. One of its initial ingredients was a highly addictive substance.
 2 An orange soda based off the sun
 3 A lemon-lime soda created that is also owned by one of the most popular soda companies in America.
 5 One of the most popular orange sodas with a variety of different flavors such as Grape.
 6 Most popular for it's root beer.

Answers:

Across:

1. Crush
2. Pepsi
3. Mountain-dew

Down:

1. Coke
2. Sunkist
3. Sprite
4. Fanta
5. Mug

APPENDIX H
Hurtful Event Writing Prompt
 (Adapted from Van Tongeren et al., 2013)

*As a reminder, if you feel uncomfortable at any time, you are free to stop participating at any time.

Directions: Please think of someone who has deeply hurt or offended you. Think about a specific act that this person did to hurt or offend you. Some examples of an act that might make you feel these emotions could be an ex-boyfriend or girlfriend having cheated on you, a friend having stolen money from you, or a stranger shouting racial slurs at you. (Note: please avoid describing an act of physical or sexual abuse.) Please take a few minutes to completely visualize the thoughts, feelings, and emotions you had when thinking about this hurtful act. Without writing any names, write a description of the specific act that this person did and describe your thoughts, feelings, and emotions in as much detail as possible in the text box below.

Directions: For the next set of questions, please select the answer that best answers the question.

1. What type of relationship did you have with the person you described?

- a. Family member
- b. Friend
- c. Romantic partner
- d. Other: _____

2. How long ago was the event you described?

_____ days
 _____ months
 _____ years

At the time of the event that you described, how did you feel?

(*extremely not hurt*) 1 2 3 4 5 6 7 (*extremely hurt*)

(*extremely not angry*) 1 2 3 4 5 6 7 (*extremely angry*)

(*extremely not sad*) 1 2 3 4 5 6 7 (*extremely sad*)

How do you feel about the event right now?

(*extremely not hurt*) 1 2 3 4 5 6 7 (*extremely hurt*)

(*extremely not angry*) 1 2 3 4 5 6 7 (*extremely angry*)

(*extremely not sad*) 1 2 3 4 5 6 7 (*extremely sad*)

APPENDIX I
Willingness to Accept an Apology

Directions: For this next set of questions, imagine that the person you wrote about attempted to apologize to you now (regardless of what the person may have done in the past). For the following statements, please select a number from 1 (*Highly disagree*) to 7 (*Highly agree*) on your level of agreement with each statement. When selecting a number, please keep in mind the person who you described as hurting you.

1. If this person tried to apologize to me, I would be willing to accept that person's apology.
2. An apology from this person would be genuine.
3. If this person apologizes, this person is willing to admit responsibility for his/her actions.
4. If this person apologized to me, that person is trying to right the wrong that he/she committed.
5. I believe that if this person apologizes, the apology was only intending to make him/her feel better about him/her self. (-)

* Items denoted with “(-)” will be reverse scored so that higher values indicate a higher degree of willingness to accept a transgressor's apology.

APPENDIX J

Willingness to Forgive

(Adapted from McCullough et al.'s, 2006, Transgression Related Interpersonal Motivations Inventory).

Directions: For the following statements, please select a number from 1(*Highly disagree*) to 7(*Highly agree*) on your level of agreement with each statement. When selecting a number, please keep in mind the person who you were describing in the task where you were asked to depict a hurtful event that you feel a person had committed toward you. To what extent do these statements reflect the way you feel about this person right now?

Revenge:

1. I'll make him/her pay.
2. I wish that something bad would happen to him/her.
3. I want him/her to get what he/she deserves.
4. I'm going to get even.
5. I want to see him/her hurt and miserable.

Avoidance:

1. I am trying to keep as much distance between us as possible.
2. I am living as if he/she doesn't exist/isn't around.
3. I don't trust him/her.
4. I am finding it difficult to act warmly toward him/her.
5. I cut off the relationship with him/her.
6. I am avoiding him/her.
7. I withdraw from him/her.

Benevolence:

1. Even though his/her actions hurt me, I have goodwill for him/her.
2. I want us to bury the hatchet and move forward with our relationship.
3. Despite what he/she did, I want us to have a positive relationship again.
4. Although he/she hurt me, I am putting the hurts aside so we could resume our relationship.
5. I forgive him/her for what he/she did to me.
6. I have released my anger so I can work on restoring our relationship to health.

APPENDIX K

Trait Empathy Assessment

(Adapted from Davis's, 1980, Interpersonal Reactivity Index)

Directions: Below is a list of statements that describe general personality characteristics. Please read each statement carefully and rate how strongly from 1(*Does not describe me very well*) to 7(*Describes me very well*) the statement describes you.

Perspective-Taking:

1. Before criticizing somebody, I try to imagine how I would feel if I were in their place.
2. If I'm sure I'm right about something, I don't waste much time listening to other people's arguments. (-)
3. I sometimes try to understand my friends better by imagining how things look from their perspective.
4. I believe that there are two sides to every question and try to look at them both.
5. I sometimes find it difficult to see things from the "other guy's" point of view. (-)
6. I try to look at everybody's side of a disagreement before I make a decision.
7. When I'm upset at someone, I usually try to "put myself in his shoes" for a while.

Empathic Concern:

1. When I see someone being taken advantage of, I feel kind of protective toward them.
2. When I see someone being treated unfairly, I sometimes don't feel very much pity for them. (-)
3. I often have tender, concerned feelings for people less fortunate than me.
4. I would describe myself as a pretty soft-hearted person.
5. Sometimes I don't feel sorry for other people when they are having problems. (-)
6. Other people's misfortunes do not usually disturb me a great deal. (-)
7. I am often quite touched by things that I see happen.

* Items denoted with “(-)” will be reverse scored so that higher values indicate a higher degree of trait-empathy.